

January 1992

# The National Locksmith<sup>®</sup>



**Decorative Hardware**



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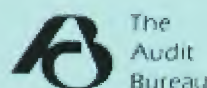
#### On The Cover

This month's special "Mini-Section" includes information on Decorative Hardware products from the following companies: (in alphabetical order) Baldwin Hardware; Jado Bath & Hardware; KABA High Security's Brassworks; and Omnia Industries. This special editorial begins on page 56.

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# Commentary

## The American Disabilities Act...And The Locksmith

Here we are in the first month of a brand new year. Moderate growth in the economy is predicted for 1992, and this should lead to a slowly improving business climate for the locksmith industry. Do your New Year's resolutions include trying harder to go *out of the shop* to ask commercial and residential customers for their business?

This month you will notice a complete new look for your favorite magazine! We have redesigned *The National Locksmith*, and have given it a new page layout and a new typeface. We believe you will find our new format easier to read and more informative than ever before. Please let us know what you think. Do you like our facelift?

One factor has not been changed. Most ads and product items still feature a clearly marked Rapid Reply number. You can easily request free product literature, information and/or catalogs. When you spot an item that interests you, simply turn to the Rapid Reply Card in the rear of the magazine. Circle the numbers of the items which interest you, and send us the pre-addressed card.

The cards are processed frequently so that companies may quickly send you information on the products you have requested. In this issue, the Rapid Reply Cards are located between pages 92 and 93. There is no easier way to shop or gather information!

\*\*\*\*\*

Have you heard about the American Disabilities Act? (Otherwise known as the American Disabilities Act A117.1, signed into law on July 26, 1990.) This law will have tremendous impact on locksmiths and building owners throughout the U.S.

To paraphrase, the law states that by January 26, 1992 all public and commercial buildings occupied by 25 or more people will be required by law to *replace all knobsets with levers or push mechanisms*. By July 26, 1992 the same applies to facilities of 15 to 24 people. Then by July 26, 1993 the same goes for facilities of *less than 15 people*. Private clubs, churches and residences are

exempt. This law will be enforced by the office of the Attorney General of the U.S., and will be coordinated by the Civil Rights Division of the Department of Justice.

Penalty for a first time violation after proper notice of non-compliance has been issued is a whopping \$50,000.00. Penalty for a second violation after proper notice of non-compliance has been issued is--get this--\$100,000.00!

Buildings which do not meet the requirements are in violation of the law and risk a federal lawsuit and a hefty fine. You should inform your commercial customers of this law. And you can write to the following address for a free copy of all the facts. Request information on the American Disabilities Act. Write to: Office on the Americans With Disabilities Act, Civil Rights Division, U.S. Dept. of Justice, P.O. Box 66118, Washington D.C. 20035, or call (202) 514-0301.

The law has many provisions which I will tell you about next month. But one thing is certain. There are going to be hundreds of thousands of knobsets all over the U.S. which will need replacing. You, the locksmith, will have a great opportunity to profit through helping your customers comply with the law. Next month, I will give you complete details, and you will learn how to inform your customers about this important new law.



*Marc Goldberg*  
Editor/Publisher

January 5



# Letters

## Comments, Suggestions and Criticisms

*The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length. Please address your comments, praise, or criticism to Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.*

### Reply To Letter On Locksmith Licensing

Dear Marc:

This letter is in response to Ms. Diane L. Delly's Letter to the Editor in the September 1991 issue of *The National Locksmith*. It is the attitude expressed by Delly's tirade against her fellow locksmiths of Florida that best demonstrates why the bill proffered by her group did not survive the Legislators of Florida, and did not receive the support of her fellow locksmiths around the state. Many of the locksmiths perceived the effort to be a thinly veiled attempt to install certain legislative locksmiths for the state against their fellow locksmiths.

Her unfounded description of Florida locksmiths in her letter to your publication only reinforces an undercurrent of derogatory and demeaning remarks made continually over the years. We have been subjected to their fund raiser, legislation pushing efforts for some time now, and are no less tired of them than we were at the outset of their great legislative plan for Florida

that started with legislation to compel testing and regulate Florida locksmiths, with great expense and no real benefit to the locksmith.

When the State decides to license locksmiths, we will consider the legislation and support or oppose it on its merits. We who opposed this effort on the part of the self-appointed Florida Board of Locksmiths and their supporters, perceived their effort to be one designed to have a final solution to the locksmith problem to wit: To place a few members of their group in paid positions to regulate locksmiths, at the sole expense of the locksmiths, to bring about state policy that would eventually require testing using ALOA test material, to set licensing fees at such a rate that would work a real hardship on retired persons working part time as locksmiths, and single, non-employee entrepreneurs now licensed in counties as locksmiths; and further to restrict the area of locksmiths territorial operation. In general, to control the competition, the locksmith and other legitimate business enterprises in the state.

The State of Florida does not at this time perceive that there is a problem with either criminal or incompetent locksmiths in our state; and agreed with the locksmiths who opposed this bill that it could not survive public scrutiny. Close scrutiny not only defeated the bill, but was responsible for the overall defeat of the Delly attitude as expressed in their meetings

and other occasions when they thought success was just around the corner.

Delly's group's resounding failure to pass legislation in Florida demonstrated more their inability to measure the marketplace, the competition, the locksmith trade, the will of the people, than how non-thinking, or uneducated or unsophisticated the locksmiths of Florida may or may not be.

Joe Burton  
Florida

### 'Beginner' Wants Veterans' Respect

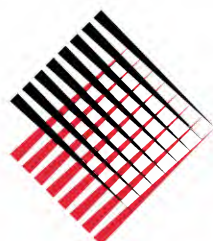
Dear Marc:

You have probably heard a lot of "Beginners" stories already, but I need to get some things off of my chest. I decided to become a locksmith a couple of years ago and completed a course in basic locksmithing and advanced locksmithing. I do my locksmithing only on the weekends or my spare time, due to economic reasons.

I am employed at a day and a night job. I work 40 hours per week at both places. That puts me into an 80 hour per week job status. That only leaves me with the weekends for locksmithing.

I want to go full time into my own locksmith business eventually, but it takes financing, and even with two job already, I am just matching my

*Continued on page 8*



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*Continued from page 6*

budget needs. So, that leaves me on a tight budget for my supply needs for locksmithing, and also limits me to what work I can accept.

I am working out of my car, instead of a well equipped van. Sometimes that looks unprofessional, but I conquer that problem as I go. Since I can't really back-up any full time advertisement, I work through the referral program I established with my clients.

I wear a neat locksmith outfit and act professionally towards my clients, and rarely come across one that wasn't satisfied. But, the problem I am facing is not with the so called "True Value" hardware business competitors, but, with my fellow locksmiths in the area.

I think that some of the established locksmiths doing full time work don't treat "Beginners" too professionally. I get better prices and service from any one of my local hardware stores, than with any fellow locksmith.

I read all the stories in your publication about how we should help one another and stick together. It seems the almighty dollar is getting to some of the big heads out there. Eventually I will get my business built up and my van established to go full time in the locksmith trade, but I

guarantee you, I won't forget the way I had to struggle at the beginning, just to buy a lock.

Thomas L. Smith  
New Hampshire

## Reader Comments On Gentry's Article

Dear Marc:

I thought I'd drop you a line in reference to Eugene Gentry's article in the Beginner's Corner November issue of *The National Locksmith*. In reference to the Discus and Buffo padlocks: Both locks use a Yale 8 keyway but they only have four pins. I find this keyway hard to pick also but have been lucky now and again with a pickgun, however, I found both locks easily impression. Remember you only have four pins and the marks will appear on the extreme left edge of the key blank as in Yale locks with the same keyway.

In reference to the Hon filing cabinets: You mentioned that one of eight keys would unlock these locks. Actually I think you were dealing with the Hon "L" series which consists of 10 different keys L01 - L10. The code will appear on the face of the lock. You can cut your own keys by code or purchase the entire set from your

favorite distributor. Remember though that the "L" series is just one of many code series used by Hon.

Most filing cabinet locks have the code stamped on the face of the lock. Knowing the manufacturer of the cabinet is sometimes needed also. The easiest way to service these locks is to cut a key by code. Picking these locks is necessary at times, especially when the cabinets are new. It seems folks just have to lock the cabinet with the keys inside. In these cases run a 1/2 diamond pick to the rear of the plug, apply downward pressure on the locking plunger and the lock will open.

In reference to mail box locks: Most mail box locks will be in clusters. That is the entire front containing all the individual doors is in itself a door to which the postman has a key. Just coordinate to be there when mail is delivered and the postman will open the front for you. This allows you access to the individual lock. Some have codes stamped on the cam (tail piece). If not, you can remove the lock without drilling and install a new lock. This gives you the old lock to take back to the shop and service

Jerry Weldin  
Kentucky



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# 1991 Technitips Contest Winners

Our congratulations go out to all those who entered our 1991 Technitips Contest. Next month we will announce the new prizes for the 1992 contest. Now, however, it's time to reveal the winners for 1991.

**Robert Morrison** has taken first prize for his December tip on the instant change cylinder. We're sure he will enjoy the Silca Club Jr. key machine.

**Bill O'Dwyer** wins second prize for his April Technitip on servicing a combination padlock. Bill will take home the HPC One key machine.

**Fred Spencer** takes third prize for his March tip on opening a jimmy proof lock without destroying the cylinder. His prize is the ESP 660 manual/automatic key machine.

**Howard Cooke** has won fourth prize for his November Technitip

on making a rotating positive stop for a mortise cylinder. Howard wins the Belsaw 200 key machine.

**Robert Lazich** has taken fifth prize for his January tip on making a tool to remove the new Ford glove box lock cylinders. He wins the HPC 9120 key machine.

**Joseph Rathjen** wins sixth prize for his October Technitip on making a restricted change cylinder. He wins \$100.00 cash plus *The Flat Rate Manual For Locksmiths* from *The National Locksmith*.

**Jerry Hagan** has won seventh prize for his February tip on making a tool to replace the Hyundai ignition cylinders. His prize is the General Code Book Set from *The National Locksmith*.

**Stan Finn** wins eighth prize for his August Technitip on making a

folding spanner wrench. He takes the Padlock Code Book Set from *The National Locksmith*.

**Casimier Cherry** has won ninth prize for his July tip on how to make a mini-pin kit from a Plano micro fishing tackle box. His prize is the Foreign Code Book Set from *The National Locksmith*.

It really is not hard to win a prize in our 1992 Technitips Contest! All you have to do is jot down an idea you have had on how to do a tricky job or to save a little time. Each of you comes across a neat little idea once in a while that would make a winning tip.

Remember, every Technitip published wins a nice prize. And by entering, you qualify for one of the big year end prizes. Send your tip today to *The National Locksmith*, Technitips Editor, 1533 Burgundy Pkwy., Streamwood, IL 60107.

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# Technitips

Helpful Hints from Fellow Locksmiths



Send me your Technitips. Who knows, you may be our next winner! c/o The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

by Robert Sieveking

*Congratulations to all those who find their Technitips printed this month. They show considerable ingenuity and creativity. Your Tips have the special honor of being the first of the 1992 contest year. Responses to the locksmith challenges have been super. They have been answered in a number of ways, and some answers used more or less the same techniques, in which case the best presented answers were printed. Thank you for your overwhelming participation.*

*With the end of the 1991 contest, we should not relax our resolve. The 1992 contest has already begun, and the new prizes are even better than last year. To be a winner, you*

*must be a participant. What could be easier than writing up your idea or Tip with an illustration or photo and sending it in. Technitips is your column. That's why it's the most read and commented on column in the magazine. These are real locksmith ideas and professional solutions for real everyday locksmith problems. Have a "Happy New Year," and I look forward to hearing from you in '92.*

## Win a VATS Decoder From All-Lock!

Each month, All-Lock will award one of their A-7000 VATS Decoders and an A-7001 Adaptor to the best automotive Technitip submitted this month. If you would like a chance to win a free decoder and adaptor from All-Lock, simply submit your automotive tip exclusively to *The National Locksmith*. Tips submitted to other publications cannot be considered.

All-Lock's A-7000 makes it easy to diagnose system failures, service the column and select the correct key blank. This sophisticated tool is easy to use and is completely portable. Long wire leads are easy to use in cramped automotive situations.

Submit your tip, and win today!



## January's Best Tip

This tip is a reply to the pin removal Technitips Challenge.

In response to your challenge on removing solid retaining pins, I have a Technitip that you may find interesting. I used the procedure on a combination padlock featuring a drive pin. Drill and tap

## How To Enter

All you need to do to enter is submit a tip, covering any aspect of locksmithing to *The National Locksmith*. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Why not write it down and submit it to: Robert Sieveking, Technitips' Editor, *The National Locksmith*, 1533 Burgundy Parkway, Streamwood, IL 60107.

Tips submitted to other industry publications will **not be eligible**! So get busy and send in your tips today. You may win cash merchandise, or even one of many key machines or code book sets! At the end of the year, we choose the winners of the listed prizes.

Last year dozens of people walked off with money and prizes. Wouldn't you like to be one of the prize winners for 1992? Enter today! It's a lot easier than you think!

## Every Tip Wins 'Locksmith Bucks!'

Yes, every tip published wins a prize. But remember, you must submit your tip to *The National Locksmith* exclusively. Each and every tip published in Technitips wins you \$25.00 in Locksmith Bucks! Use this spendable cash toward the purchase of any books or merchandise from *The National Locksmith*. You also receive a Bonded Locksmith bumper sticker and decal. Plus you are now eligible for the really big prizes!

## Best Tip of the month prizes!

If your tip is chosen as the best tip of the month, you will win \$50.00 in cash as well as \$35.00 in Locksmith Bucks! Plus you will receive a quartz Locksmith watch, a Bonded Locksmith bumper sticker, decal and a Locksmith Cap. Plus, you may win one of the annual prizes.



the pin for a screw that is smaller than the diameter of the drive pin. In this case the pin was tapped #2-56. The tapped hole need not go completely through the drive pin. You only need about five threads into the pin to give the maximum pull the screw will be capable of exerting on the pin. Thread a nut onto the body of the screw, and screw the assembly into the drive pin. Use a pair of diagonal pliers to "lever" the screw and pin up, and out of the lock body. The nut acts to reinforce and enlarge the head of the screw.

To reassemble the lock, after it has been opened or serviced, it is your option whether to reverse the drive pin, concealing the "pull" hole, or reinsert the pin so that the threaded hole will be easily accessible if the lock combination is lost again.

By removing the drive pin in this way, the lock case can be slid up the shackle, and the combination worked to open the lock. This Technitip leaves the padlock completely serviceable and undamaged.

Chester Zawadzki  
New Jersey

#### **Automotive Tip of the Month**

This tip is the winner of the All-Lock A-7000 VATS Decoder and the A7001 Adapter. All-Lock will award this package to the best automotive tip each month of the year.

This automotive Technitip concerns the opening of the newer BMW's, the 3, 5, and 7 series with the electrical deadlocking function. If these vehicles have been sitting around unused for a few months, and the battery has gone dead, you may find that your key will not "unlock" the vehicle. By this, I mean that you will not be able to raise the locking button with the key to leave the vehicle unlocked.

In order to "deactivate" the electrical deadbolting system, you will need electrical power, but to open the vehicle follow this procedure. Pull up on the driver's side door handle as you turn the key counterclockwise. This should allow you to unlock the door. If you do not have the key to the vehicle, do the same as above except with your favorite unlocking tool. (This method may not work on all models.)

Armando Martinez  
Florida

*The following four tips are replies to the Technitips Challenge regarding Papaiz profile cylinders.*

In reply to your question for the Papaiz profile cylinders, I ran into the same availability problem around the first of the year. The cylinders are handled by a Canadian firm with a distributor in California. The enclosed invoice shows Juralco Inc. to be at 15250 E. Stafford St., City of Industry, CA 91744, phone (818) 336-2812. The double-keyed cylinders are only \$5.19 each. I hope this will help.

John Boncuore  
Illinois

Enclosed is some information that I had obtained when I needed to order Papaiz profile cylinders. I ordered some of the profile cylinders and key blanks from Juralco, Inc. They shipped them promptly. I hope this information will help. (See illustration 1.)

The method I use to disassemble and reassemble these cylinders is as follows:

1) Cut a follower, of the proper diameter, into segments that will fit easily into dimension "C" of the cylinder. You will need enough

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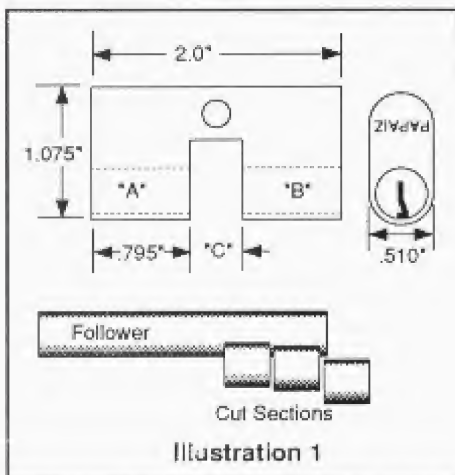


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Continued from page 12



segments to equal the approximate length of the plug.

2) With a regular full length follower, load all springs and top pins. (This means both sides of the double-key cylinder, if double.)

3) Insert plug "A" in the normal

manner, leaving the plug face out a little, so the rear of the plug does not reduce dimension "C."

4) Insert the follower "segments" one at a time, at "C" to push the follower out the "B" side of the cylinder.

5) Insert plug "B," removing the segments one at a time at "C", as the plug follows them out of the cylinder.

6) Carefully install the plug retaining rings and cams, to complete the job.

I hope this method is of some assistance to others having difficulty assembling these cylinders.

Glenn Glissman  
California

\*\*\*\*\*

If you are having difficulty pinning the Papaiz cylinders, try using .092

Master padlock pins. The Papaiz pin diameter measures .095", and the max size of a plug pin hole measures about .103". It is an easy task to make a set of depth and space keys over the Papaiz blank, which will use these pin lengths. After servicing the cylinder, I find that it very much resembles a "Pado" brand profile cylinder. The Pado brand system is much more serviceable. In my opinion. If someone has access to the Pado cylinders, please let me know.

Leo Koulogianes  
Tennessee

\*\*\*\*\*

I recently had four single keyed profile cylinders to combine to a keyed alike system. I found something interesting that you should be aware of.

Use caution assembling the cylinder. The clip that holds the cylinder in place must be properly installed if the cylinder is to operate. The tip of the key operates a slide, in the cylinder, that engages the cam. If the retaining clip is installed improperly, the key will not be permitted to enter the cylinder far enough to operate the slide or engage the cam.

Richard Crecelius  
Nebraska

\*\*\*\*\*

This Technitip concerns making keys for the new Mercury Tracers and Ford Escorts, those with the high security ten cuts side bar ignitions. By pulling the door lock cylinder or reading the wafers, you will be able to find cuts 4 through 9. (Cuts are numbered from tip to bow.) This key will operate the doors and trunk. It is a simple matter to progress cut #10 to make an operating key for the ignition. Wafers 5, 6, 7, 8 and 9 are common to all locks. Wafer #4 is found in the door and trunk cylinders only, and a wafer in the #10 position will be found in the ignition only. You will not find wafers in position #1, 2, or 3 on these autos.

If you remove the door cylinder to make a key, you would normally need to disassemble the cylinder to read the wafers. As you see in illustration two, the drain hole in the bottom of the cylinder case will allow you to easily see four of the six wafers. To see the remaining two wafers, without disassembling the cylinder, remove the thin metal area of the lock case which covers the remaining wafers.



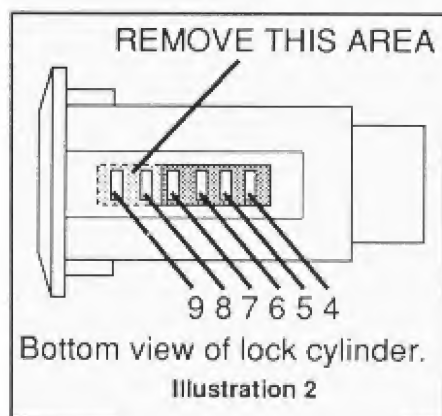
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I used my cutter wheel to thin it down, and cleared the hole with a small sharp flat blade screw driver. This does not weaken the lock case, and saves time removing and replacing the cap. This could be a life saver if you don't have a replacement cap.

Bill Cooper  
Mississippi

I use the Squeeze Play hollow metal door mortiser to mortise the edge of metal doors for square face bolts. I've always worried about losing the die block in the hollow void along the edge of some doors. To prevent accidentally dropping the tool down in the edge of the door, simply take a shop rag and stuff it inside the door, right below your cut-out hole. Now, while you're fishing the tool around to assemble it on the door, there will be no danger of losing the die. If it is dropped, it will only fall on the rag.

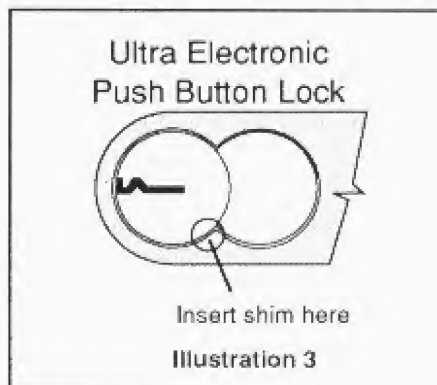
R. Lazich  
Illinois

My Technitip is a method of keeping the latch bolt of a lock, installed on a hollow metal door, from moving around inside the door after the lock is installed. After drilling my holes in the door, I fill in and around the holes with foam insulation (the kind that comes from a spray can). After the foam hardens, I can redrill the holes in the foam. The foam dries hard, is easy to drill, and will reinforce the hollow door, preventing it from collapsing when the lock is installed and tightened in place. This method is ideal for trailer and mobile home doors, that are very difficult to service by normal procedure. I hope this Tip will help stop some of those recalls associated with disconnected tailpieces and locks that continually loosen themselves

on hollow doors.

Mickie Croxton  
Texas

There is an emergency way to open an "Ultra Electronic Push Button Lock." Slide a Weiser shim into the handle, alongside the cylinder assembly. (See illustration 3.) The side of the cylinder closest to the floor



has a small access point due to the pressure of the set screw against the cylinder assembly. Now, turn the handle in the opening direction to open the door. The lock has been bypassed and the door opened without keys, codes, or damage.

Peter Y. Uyehara  
Hawaii

Photograph four shows a laboratory stand, with a flask holder, holding a flashlight. It may seem a little awkward to carry around, but is great for holding a light at "just the right angle" when you are called to impression a key at night in a dark parking lot. These stands are available from laboratory equipment stores, or you might want to just use the example to make one from parts you have around the shop.

Cy Rollins  
Delaware



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4. Laboratory stand with flask holder.

I recently had the need to convert a Schlage A53PD entry function lockset to a store room or A70PD function. The lockset was on the door to the common entry of a small apartment complex. The changing neighborhood had made the need to keep the common areas secure an important issue, and some of the tenants were leaving the entry door unlocked.

To solve the problem, without investing in a new lockset, the mechanism was modified in the following manner.

A 1/16" hole was drilled in the "dog leg" of the locking plunger, as you see in illustration five, and a small flat area was filed on the outside of the knob spindle hub.

File a small flat across the slot in the hub.

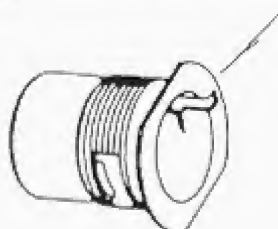


Illustration 5

Drill a 1/16" hole here. The U-shaped wire is inserted in the hole and crimped after the lock is assembled



Illustration 6

(See illustration 6.) The flat is deep enough to allow a cotter pin or wire to be passed through the hole in the locking plunger when the lock is assembled and the plunger positioned to lock the outside knob.

After assembling the lockset, the plunger is depressed and a cotter pin or wire loop is inserted into the 1/16" hole in the plunger to prevent it from being retracted. This keeps the outside knob locked at all times, yet allows the key to retract the latch.

If the conversion needs to be removed at a later time, it is a simple matter of removing the wire retainer, to restore the lock to the 53 or entry function.

Dan H. Carmichael  
Texas

\*\*\*\*\*

Here is a Tip that may help in a situation where a door knob set screw or other type of set screw becomes loose because of vibration or heavy traffic and use. After securely tightening the set screw, "stake" a small portion of the surrounding metal into the slot of the screw with a small punch as you see in illustration seven. The set screw can still be removed if necessary, and no permanent damage has been done to the knob. If done properly, no amount of vibration will loosen the screw.

Rohan A. Kerrutt  
New York

\*\*\*\*\*

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# Newsmakers

## New Products and Industry News

### The Media COOLER From Schwab

Research shows that almost 70% of consumers don't realize that regular insulated files and safes won't protect computer media from fire damage. These safes and files do an excellent job of protecting paper records, but allow the interior temperature and humidity to reach levels that destroy computer media.

Schwab's new Media COOLER is specifically designed to upgrade the protection provided by a U.L. rated Class 350 insulated file or safe to meet U.L.'s Class 125 standards, thus assuring the protection of computer media stored inside. The Media COOLER offers an affordable solution to a problem consumers may not realize they have.



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### Strauss Safe & Lock Since 1927

Strauss Safe and Lock Company has been successfully serving the needs of locksmiths since 1927. Their commitment to locksmiths of all sizes is demonstrated by their policy of no minimum orders. Strauss is one of the largest sources of Welser locks in the country, carrying all styles, functions, and parts.

They also feature lines such as Jado, Baldwin, and Omnia.

For FREE Information  
Circle 367 on Rapid Reply

### Midwest Hardware's Large Inventory

Midwest Wholesale Hardware offers a large inventory at wholesale prices for the following manufacturers: Schlage, Von Duprin, LCN Closers, Glynn Johnson, Yale, Russwin, Ives, Norton, Defex, Bommer, Simplex/Unican, Adams Rite and H. Soss hinges. They also stock electrified locks and hinges.

Same day shipment on stock items and prepaid freight on all orders over \$500 to Midwest Wholesale customers on open account is also offered.

The Kansas City, MO based company recently opened a second location in Orlando, FL.

For FREE Information  
Circle 365 on Rapid Reply

### Keysure's Patented Keyless Lockbox

Keysure reinvents key control with its patented "Keyless Lockbox" and accountability. Once closed, the keyless lockbox must be broken to gain access to the key, access control card, computer password or safe combination.

Keysure is also available as a "hands off" key control system complete with cabinet and key tags. The keyless lockbox can also be surface mounted.

The latest addition to their product line is a keyed lockbox that holds six keyless lockboxes so that the important keys can be visually audited. This makes an ideal accessory to any traditional key cabinet, other sizes available.



For FREE Information  
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*Continued on page 20*



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**Designing Excellence and  
Manufacturing Quality since 1956**

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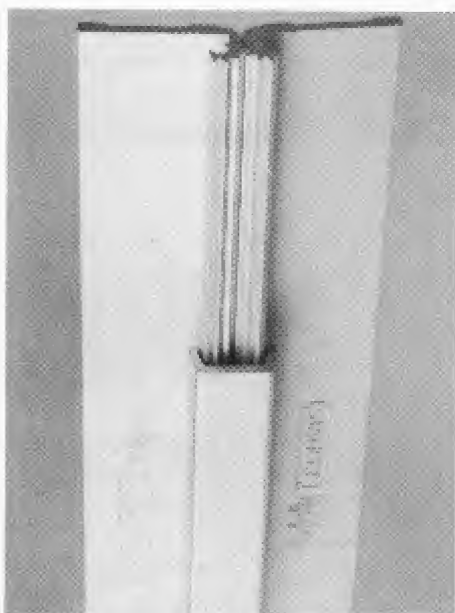


Continued from page 18

## Stanley Adds Aluminum Hinges

Stanley Hardware has added an extensive line of extruded aluminum geared continuous hinges. Stanley's new "Lifespan™ 500" series are the industry's only continuous hinges guaranteed for the life of the building.

The 500 series hinges employ a unique anti-friction bearing assembly



that is virtually wear free. The hinges are packed with drill point, machine and wood screws to accommodate every kind of door and frame.

Special trim pieces are available to customize the appearance of the Lifespan™ hinges. They are offered in six styles, two colors, and three stock lengths.

**For FREE Information**  
Circle 368 on Rapid Reply

## Metro Safe Seeks Distributors

Metro Safe Company, Inc. is the national distributor of TFL-50 wet and dry lubricants and is looking for a limited number of regional distributors.

TFL-50 wet lubricant is a cleaner and corrosion inhibitor. Spray it on, and accumulated grime, grease and oil virtually melt off. Penetrating action loosens "frozen" bolt, displaces moisture and protects from rust and corrosion.

Non-staining TFL-50 dry lubricant works on clean, dry surfaces to stop squeaking, sticking, and frictional wear. It is completely dry, practically invisible and resists dirt and dust.

**For FREE Information**  
Circle 369 on Rapid Reply

## Door Controls International Magnetic Lock Debuts

The new magnetic lock from Door Controls International is dramatically different because it is enabled by proprietary design.

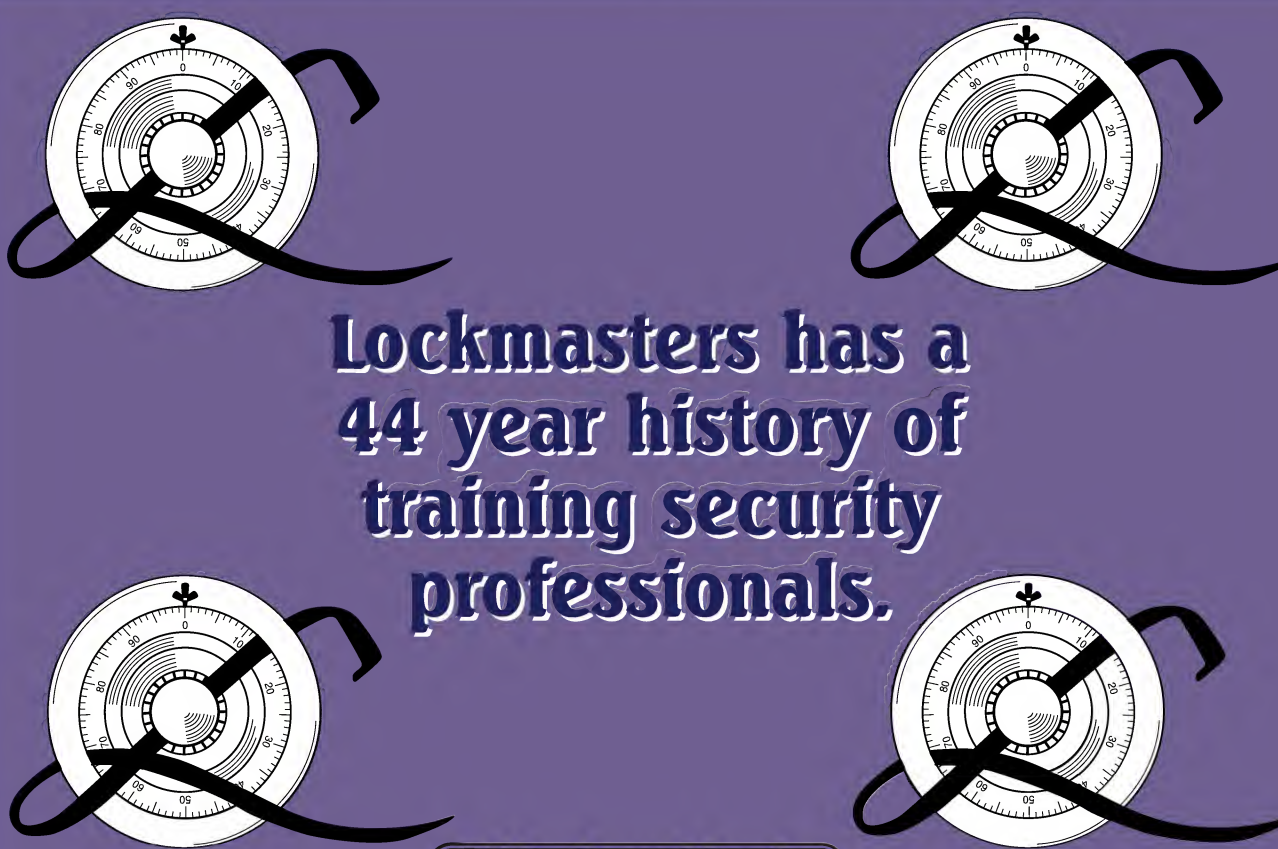
The lock has 1200 pounds of force in only an 8-3/4" x 2-1/2" profile. Despite its size, the 1-3/4" depth fits standard frames without fillers. A proprietary bracket eliminates measurements and templates for easier mounting.

Exclusive, precise, bond-sensing options are contained within the bracket, not the magnet. Only one magnet model required: non-handed, dual voltaged, pull or push side, any option.



**For FREE Information**  
Circle 370 on Rapid Reply

Continued on page 22



# Lockmasters has a 44 year history of training security professionals.

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Continued from page 20

### **Lectro Truck® Allows One Man Operation**

The Lectro Truck® from Woodward Mfg., allows a single operator to move bulky, heavy loads safely and easily. Using a battery powered 1/2 HP motor on a hardened screwdrive, the Lectro Truck® can move and lift safes and gun safes up to 1,500 lbs. The lift mechanism allows an operator to lift and lower the load from truck beds and loading docks. By alternately lifting the load and wheels, the loads may be quickly and safely walked up flights of stairs.

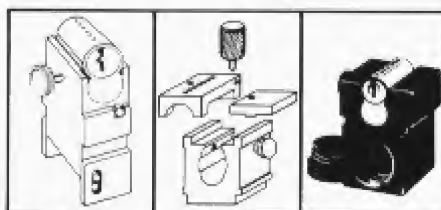


**For FREE Information  
Circle 371 on Rapid Reply**

### **A-1's Interchangeable Core Service Kit**

A-1 Security Manufacturing, manufacturer of numerous tools for I/C, has introduced a set of specialized tools for servicing Interchangeable Core. For the price of "The Block" and the "Capping Block" purchasers will also receive the "Dumping Block".

The Block, a patented device for I/C allows decoding of the control key code while keeping pin stacks separated and in order. The "Capping Block" is the only unit available which caps both "Best" and "Falcon" types. The "Dumping Block" will dump and hold the pins and springs of dozens of cores.



**For FREE Information  
Circle 372 on Rapid Reply**

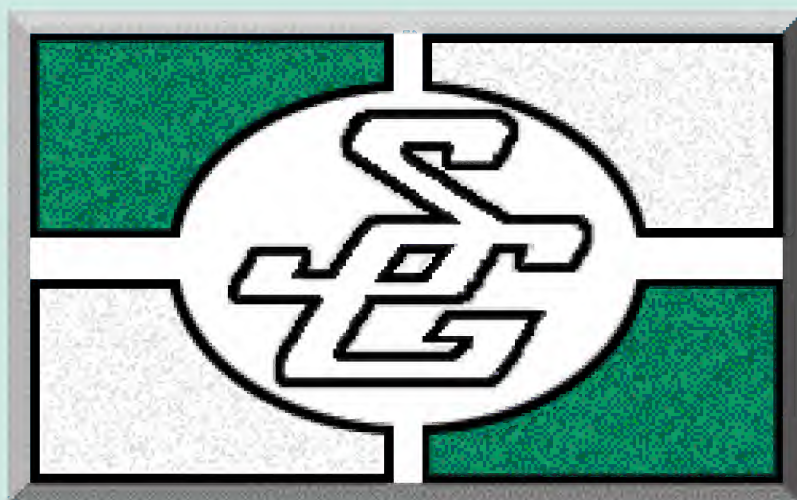
### **Paragon's Remote Vehicle Security**

For the automotive enthusiast wanting an economically priced yet comprehensive vehicle alarm, Paragon Security Corp. introduces the RM9004 Remote Controlled Vehicle Security System.

The RM-9004 is installed by connecting two wires. The RM-9004 monitors the vehicle's doors, hood and trunk without having to hardwire these zones. In addition, the RM-9004 incorporates a built-in shock and glass break sensor with sensitivity control to detect motion or glass breakage.



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***Make Sargent & Greenleaf's  
Comptronic locks your choice for  
electronic safe locking solutions.***

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Continued from page 22

## Amsec's New Family Of Wall Safes

American Security Products Company (AMSEC) has recently introduced two new wall safes and now offers three different models to accommodate all types of requirements and installations.

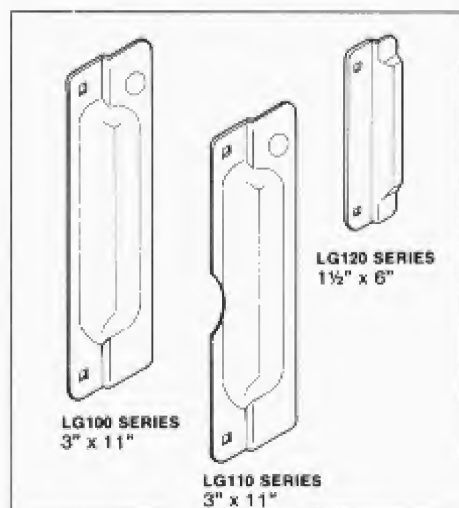
The new model WS1514 utilizes all the quality features as the existing WS1014 wall safe but offers 30% more useable storage space. The WS1514 offers an S&G Group II lock with flat dial and new door design for fully flush mounted installations. The standard built-in exterior flange allows easy installation without the unnecessary need for replastering.

For FREE Information  
Circle 374 on Rapid Reply

## Latch-Gard's Extensive Product Line

Latch-Gard, Inc.'s product line includes eight models of latch protectors for a variety of latch applications. All models are made of steel and are available in zinc, duronodic, and bright brass. The jamb pin on the LG100 and LG110 prevents the prying of the door away from the jamb. The LG120 through LG171 have special fasteners that provide a smooth interior and exterior finish.

The LG11 provides security in home, apartments and hotels. Made of aircraft cable, the LG11 limits the door opening and is hard to cut. There is a Latch-Gard product for every need.



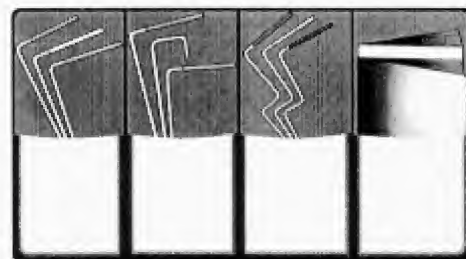
For FREE Information  
Circle 375 on Rapid Reply

## High Tech's New Model 2000 Auto Lockout Set

High Tech has just announced the release of their new 1992 model 2000 lockout set. This model covers virtually every 1992 and previous automobile, foreign and domestic.

Included with this complete set are 30 tools designed to work in seconds, also included is High Tech's new 1500 page encyclopedia which gives the locksmith all the information necessary for auto lock service and entry.

Also included are two smaller manuals.



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## Company Profiles...

# Know Your Distributor

*Here's an opportunity to get a closer look at some of the wholesalers serving the trade.*

### Ace Locksmith Company

Ace Locksmith Company is moving to larger quarters, a 22,000 square foot building. This expansion was a lifelong dream of Ace's founder, Morris Goldstein, who passed away on October 1; although he didn't realize the joy of seeing the move take place, he was the active member of the partnership that put the deal together.

Morris Goldstein, a charter and life member of ALOA and of the Master Locksmith Association of New Jersey, founded Ace in 1947 with his wife, Bertha, and in later years was joined by son Daniel, now Ace's president, and son-in-law Robin Cherkas, now Ace's vice president. They are now completing Morris' dream of expanding the company into a facility capable of handling Ace's growth for years to come.

This expansion was long overdue. Ace has been growing at an accelerated rate and today they represent over 150 different product lines. For example, locksmiths can rely on excellent stock levels of Kwikset, Arrow, Yale, Corbin & Russwin, Sargent and Medeco products. Door closers and exit devices are represented by Norton, Yale, Von Duprin, Corbin and LCN. Other popular lines include Ives, American Lock, Master, Ilco and Stanley.

Along with the growth of its mechanical door hardware and locksmith supplies, Ace has developed a particular expertise in electronic locksmithing. "Let Us Be Your Access Control Experts," Ace's advertising slogan, has become well known throughout by those seeking technical assistance. Leading electric lines stocked by Ace include DACS 200 card access systems, Folger Adam, Von Duprin, Rofu, Locknetics, Securitron, OmniLock, CorKey, Simplex, Detex, Alarm Lock

and Alphone.

Ace continues to assist the growth of professionalism for locksmiths with their active seminar program throughout the years. Recent courses, at no cost to the attendees, have included full day or modified technical classes on product lines by Yale, Corbin, Locknetics, DACS 200 card access systems, Detex, Medeco, Norton and Markar. An upcoming class on Sentex, a growing manufacturer of telephone access control systems, is coming soon.

Ace Locksmith Company is now preparing their new 400-page catalog which is expected to be ready for qualified locksmiths by March 1992.

**For FREE Information  
Circle 352 on Rapid Reply**

### Akron Hardware

Since they began wholesaling in 1978, specialization has been the key to Akron Hardware's ability to serve customers. They are committed to doing one thing and doing it right. As a specialist, they can cater to your specific needs for a select group of product lines: Corbin & Russwin architectural hardware, Adams Rite narrow stile door hardware, Rixson architectural and fire/life safety hardware, and CCL cabinet hardware.

Akron Hardware is known throughout the industry as the nation's most complete distributor of Corbin hardware—a reputation they are proud of. In 1988, Akron Hardware was also named the first Russwin Authorized Distribution Center making them one of only two factory-supported national wholesalers of Russwin.

Akron's Corbin & Russwin stock includes everything you would expect from their largest distributor,

as well as some things you might not expect. In addition to the thousands of locks, closers, and exits in the various sizes, functions, and finishes, they stock cylinders and key blanks in every available keyway. Their comprehensive parts inventory includes over 1,500 internal parts and component parts. Akron Hardware can even supply you with any technical information you may need from their stock of catalogs, parts lists, and brochures.

In an attempt to improve service to customers in the Western half of the United States, they established a branch office in Chandler, Arizona (a suburb of Phoenix) in 1990. The branch is fully equipped with sales, customer service, order entry and warehouse personnel who can directly access the advanced computer system in Akron. A toll free phone number and a toll free fax number allow customers to inquire about an order, check stock, request literature, or ask technical questions.

Whether you call the location in Arizona, or Ohio headquarters, locksmiths can be sure of receiving the same fast service, competitive pricing, and knowledgeable help that has made Akron Hardware Consultants the industry's leader for Corbin & Russwin, Rixson, Adams Rite, and CCL hardware.

**For FREE Information  
Circle 353 on Rapid Reply**

### Allied Locksmith Supply

For over ten years, locksmiths around the country have found Allied Locksmith Supply to be the source for foreign and domestic automotive locks. Allied has one of the largest automotive inventories in the country, carrying every item available from Briggs & Stratton and Auto-Security Products. They have an extensive inventory of Ilco and



## **Allied Locksmith Supply**

*Continued from page 26*

Silca foreign car and motorcycle key blanks. They also carry All-Lock auto locks and key blanks, Continental Micro code cards, HPC auto-related lines. In all, Allied stocks over 4,500 different items.

Steady growth and dedication to customer service throughout the years has provided worthwhile. Today, Allied is recognized as one of the foremost nationwide distributors specializing in automotive locks. Allied prides itself on providing competitive prices with a high fill, low backorder ratio. This low backorder ratio, a principle the company was founded on, is one of the best in the industry. Customers have definitely come to depend on it.

As the industry becomes more complex, Allied customers depend on a knowledgeable sales staff. A customer generally knows what item they need but often not a part number. Allied prides itself on knowing every part number they carry. Approximately 30-50% of the orders processed each day requires assistance involving part number identification or application.

Their sales brochure devoted entirely to automotive products, offers their customers a clear, concise layout and a simplified

approach to purchasing auto locks. Customers may request to receive these free brochures simply by asking.

With the ever-changing automotive industry, Allied looks forward to the challenge of providing their customers with the broadest product information and best possible service.

**For FREE Information  
Circle 354 on Rapid Reply**

## **Ambassador Safe Co.**

Ambassador Safe Company was created by Jeff & Larry Hale, owners of M.L. Lock & Safe Co., Inc., as a distributor for their own imported quality fire safes, and to distribute other major safe brands as well. This concept will enable safe dealers, from the smallest one man mobile locksmith to the largest safe dealers, to obtain one safe, a full container, or any quantity or type of safe to fit their needs.

In addition to Ambassador fire rated safes, they also stock gun safes, "B&C" rate burglary chests, rotary hoppers, money slot safes, in-ground steel safes, and composite safes, as well as "TL-15/30" rated safes, all from various manufacturers.

As the direct importer of Ambassador fire rated safes, they also carry a full line of service parts for their safes, including replacement safe and key locks, extra drawers, extra shelves and key blanks.

Ambassador offers a combination of 40 years experience in the lock and safe industry to any dealer who needs help in selecting the proper safe for their customer, or to the dealer who would like to start generating sales and extra income. They also offer a lifetime warranty on all Ambassador fire safes, allowing the dealer to sell with confidence. Expansion of the Ambassador line, also includes a digital combination lock on selected models.

They also manufacture excess cash handling containers with five models currently available. They were designed for the temporary storage of excess cash, to be mounted under the counter at the point of sale. Additionally, two models of "Econovault" are available for the storage of weapons and valuables.

**For FREE Information  
Circle 355 on Rapid Reply**

*Continued on page 31*



**SRI and Steve Young are working together  
to bring you the best in locksmith tools  
and supplies.**

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Continued from page 28

## Bell's Hardware

Bell's Hardware was founded in 1929 by Bob Bell, Jr., who was actively involved in the early days of setting up a locksmith association in New Jersey. In 1964 Richard Middleton formed Hillside Lock Shop, performing all the outside locksmith work for Mr. Bell. And by 1969 he and partner Don Meyer purchased Bell's from its first owner. The company still operates from its original location in northern New Jersey.

When Richard first started with the firm, he expanded the wholesale business, warehousing an extensive number of key blanks, locks, padlocks, door closers and locksmith supplies. He also became a stocking distributor of safes. Richard's partner Don split off the service end of the business, so that in 1979 Richard's company became strictly a wholesale operation called Bell's Security Sales, Inc.

Currently, Bell's is a full line distributor carrying a wide range of manufacturers for all types of locks, door hardware, locksmith supplies and tools. Richard was an avid collector of antique locks, keys and padlocks, as well as bank safes. The collection is on display at the company's facility.

Richard passed away on September 17, 1990, but he left behind his extended family to run the business and carry forward with his tradition of personalized customer service. Now operating the business is Richard's wife Dale, and son Richard Middleton II. Also on board are Dennis Jarvis (23 years of service), John Ciechowski (16 years) and Kurt Navratil (10 years). The complete staff numbers ten employees.

Bell's is now moving rapidly into the area of electronic security, including access control systems, card readers, electric door openers, electromagnetic locks as well as high security locks.

"We always specialized in the personal touch," says Dale Middleton. "All of our key personnel are or have been locksmiths. Richard's love for this industry is shared by all of us. When our customers have a problem, they are not going to call up here and get a computer. They will talk to a knowledgeable staff member who will suggest the appropriate solution. We care about our customers at Bell's. In fact, we service customers from all over the country."

**For FREE Information**  
Circle 356 on Rapid Reply

## DiMark International

As retail locksmiths in Santa Monica in the early 1970's, Mark and Diane Pirman were searching for good equipment to cut keys for the evolving foreign car market. After modifying several existing key machines, they expanded their search to Europe, reasoning that what is "foreign" in the U.S. is "domestic" in Europe.

Their efforts paid off when they visited the Borkey factory in central Germany. After a complete demonstration of several machines, Mark decided to buy a Rexa semi-automatic machine for key duplication and a 948 manual machine for coding. When the machines arrived at the retail store, they were just as excellent as Mark remembered.

A few lock shops around the country keep the coffee pot on for other locksmiths and are willing to trade parts and (a few) trade secrets. Mark's shop was one of these, and over the next few weeks and months, locksmiths from around the area visited and were shown the new machines of which Mark was so proud. After a few friends in the trade asked how they could get delivery, Mark and Diane inquired of the Borkey factory whether they could buy several.

Since there was no Borkey representative in the U.S., the factory offered an agreement to the Pirmans to test whether an association would be mutually profitable. And that is where the real DiMark story begins.

The first catalog, published in 1979 after their move to Santa Maria, was 12 pages and included Borkey machines, cash boxes, key rings and identifiers, and antique furniture keys. In the beginning, all products were imported from Germany.

Over the last 12 years, as their customer base has grown to include several thousand active locksmiths across the U.S., their products lines have been expanded to include many American manufacturers and imported items from several other countries.

With toll-free numbers accessible from anywhere in the U.S., DiMark offers good service to customers from border to border. Customers from Canada and Europe order by letter, fax and telephone. Most orders are shipped "same day."

**For FREE Information**  
Circle 357 on Rapid Reply

## Dugmore & Duncan

Dugmore & Duncan is a major stocking distributor to the locksmith industry specializing in the sale of door security products to the aftermarket. Dugmore & Duncan has developed a reputation as "the Sargent Source," maintaining one of the largest inventories of Sargent products in the world. They also maintain an extensive inventory of Yale products including Yale's new cylindrical lever set which accepts interchangeable cores of Best, Falcon, Arrow and other similar types. In addition to Sargent and Yale, Dugmore & Duncan also stocks Simplex, Don-Jo and others.

Dugmore & Duncan's wares lines are handled by professional sales technicians who take orders of any size (no minimum order requirements). Dugmore & Duncan features a state-of-the-art computer system which provides accurate information on inventory, order entry, ticketing, shipping and invoicing.

The company has three branches: Hingham, MA; Riverside, CA; and Lakeland, FL, with inventory and technical assistance at each location. The three branches are coordinated by a support team that communicates daily combining their strengths to meet the customer's needs.

**For FREE Information**  
Circle 358 on Rapid Reply

## Lancaster Supply

Lancaster Locksmith Supply is located in the San Diego, CA area and distributes code books, guidekeys, and tryout keys by Baxter Systems, and key blanks and replacement auto locks by Briggs & Stratton. They carry foreign car keying kits and replacement locks from Auto Security Products; key blanks, key machines and tools from Iico; key control cabinets from MMF; and Prolak's car entry tools. Key blanks are available from Star, Jet and ESP. Lancaster also carries: Don-Jo door repair plates and wrap-arounds, Continental Micro code cards (for the 1200CM), Files by Grobet, Pinning kits and replacement pins (.003 and .005) from Specialty Products Company, key chains and accessories by Lucky Line and Perry-Blackburne, tools by A-1 Mfg. and Majestic, and key machines and tools from Rytan.

The owner, Mike Lancaster, brings



## Lancaster Supply

Continued from page 31

10 years of experience as a locksmith to the wholesale business. Plans for the future include expanding the product line to become a more diversified supplier to the locksmith industry.

Lancaster's new 112 page catalog is available upon request. The catalog is simple and easy-to-use with the manufacturer's numbers and descriptions for ease of ordering. Most parts are in stock and ready for immediate shipping. All items in stock may not be listed in the catalog.

Mike, Nadine, or Sheila will be ready to assist you in any way they can.

**For FREE Information**  
**Circle 359 on Rapid Reply**

## Locksmith Distributors of America

**Acme Wholesale Distributors.** Based out of New Orleans with distribution centers in Houston and San Antonio. Servicing the Door Hardware and Security Industry for 25 years. Acme's motto is "Large enough to serve you, but small enough to know you."

**Armstrong's Lock & Supply, Inc.** Based out of Atlanta with distribution centers in Miami and Tampa.

Servicing the Door Hardware and Security Industry since 1962. "Armstrong's has the merchandise that affords the Locksmith the luxury of one-stop shopping."

**Canada Lock Products.** Based out of Toronto, Canada. Servicing the Door Hardware and Security Industry since 1934. Canada Lock prides itself in "Quality service" from a knowledgeable and energetic staff."

**Cook's Supply, Inc.** Based out of Denver, Colorado. Servicing the Door Hardware and Security Industry for 14 years. Cook's motto is "No job too big, no Locksmith too small."

**Hardware Sales.** Based out of Detroit with a distribution center in Pittsburgh. Servicing the Door Hardware and Security Industry for over 65 years. Hardware Sales prides itself in being "Your key to Security Hardware since 1925."

**H. Hoffman Co.** Based out of Chicago with distribution centers in Cleveland, Indianapolis, Kansas City, Milwaukee, St. Louis and Rosemont. Servicing the Door Hardware and Security Industry for 60 years. H. Hoffman Co.'s motto is "Work Smarter, Not Harder" and offers Mid-American Locksmiths meaningful programs that give them the time to concentrate on business

development.

**M. Taylor, Inc.** Based out of Philadelphia, Pennsylvania. Servicing the Door Hardware and Security Industry for 80 years. M. Taylor, Inc. prides themselves in being "100% behind the Locksmith."

All LSDA Distributors offer their locksmith customers the LSDA private brand of security products which is not available for resale through mass merchants. In addition, all LSDA distributors carry a full line of national brands at competitive prices.

**For FREE Information**  
**Circle 360 on Rapid Reply**

## Monaco Lock

Monaco Lock Co., Inc. is celebrating it's 25th anniversary of serving the security industry. Founded in 1967 as a local locksmith shop doing local residential and business service calls, the company became authorized as a distributor for reputable manufacturers in the door and hardware industry. Today, Monaco Lock carries a full line of electric locking devices, access control products, and door hardware, having become a major

Continued on page 34



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Quality Products,  
Innovative  
Technology and  
Strong Partners.**

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### **Monaco Lock**

*Continued from page 32*

wholesaler satisfying customers across the country.

Such was the nature and scope of the business, that Monaco Lock moved at the end of last year to a new facility built especially to accommodate its still growing distributorship. Twice the size of its old facility, the new one will accommodate even larger quantities of electric strikes by Folger Adam, Adams Rite, HES, and Trine; electromagnetic locks and accessories by Locknetics-Security Engineering and Securifon; access control products by Simplex and Continental Instruments; and intercom systems by Lee Dan, LCN Closers, Arrow, Schlage, Stanley, Marks, National Guard, Rockwood, Ives, Don Jo, Abus and American padlocks, Bommer mail boxes, and CCL round out the door hardware line.

Monaco Lock is your one stop for all your security needs providing courteous, reliable service and technical assistance. Call toll free for a full line catalog and a 25 year reputation of customer satisfaction.

**For FREE Information  
Circle 361 on Rapid Reply**

### **Security Lock Distributors**

Security Lock Distributors, a premier distributor of Arrow Lock products, is able to offer an in-depth and complete stock. Their stock not only includes the basic selections of quality locks and hardware that Arrow has offered throughout the years, but also their new lineup of products including exit alarms, door closers, interchangeable cores, panic devices and heavy-duty lever handle sets. SLD stocks all these lines and they have it in every style, function and finish available.

The Needham Heights, MA company is not limited to Arrow, however. They have become one of the most complete suppliers of electronic and access control products. Their diversified lines of products include: Adams Rite, Simplex, Locknetics Security Engineering, Folger Adam, Detex, Van Duprin electronics, Securifon and H.E.S.

Their 192-page catalog is now off the press. It contains product information and clear illustrations that can greatly simplify your purchasing. Specific references to backsets, latches, finishes and voltages are included.

*Continued on page 36*



## **Security Lock Distributors**

*Continued from page 34*

SLD's sales and technical staff stand ready at all times to help you solve your problems and satisfy your needs. Years of "hands-on" experience in the field exemplify the depth of knowledge and practical applications at their fingertips.

Security Lock Distributors has also made it easier to communicate now that they have a nationwide toll-free number as well as a fax machine.

Overall, if you're looking for outstanding service, great technical expertise and diversified and in-depth inventories, SLD will deliver.

**For FREE Information  
Circle 362 on Rapid Reply**

## **So-Cal lock & Supply**

In 1980, So-Cal began with 500 square feet of warehouse, a telephone, three product lines and a dream. They felt that by staying within certain product areas that So-Cal could better serve the locksmith and still maintain a policy of no minimum purchase. The company wanted to provide friendly, fast service with the ability to assist the customer with the order. So-Cal has now expanded to over 30 different product lines in stock and more than

2500 square feet of warehouse.

If its foreign or domestic automotive locks, parts, and service kits you are looking for, So-Cal most likely has it in stock. They are a stocking distributor for ASP, All-Lock, and B & S. Key blanks in stock are Ilco, Jet, and ESP and original blanks from their product lines are also stocked. Tools such as pin kits from LAB and OEM, picks, opening tools, key machines, Baxter code books, guide keys, and LPS lubricants are shelf items. They stock cam locks, padlocks, mailbox locks, key cabinets, MAG plates, and much more.

The original idea and goal for opening So-Cal was to serve the small locksmith who was unable to meet the minimum purchase requirements of the larger distributors. They soon found that they also filled a void for the larger locksmiths. In order to fill that long and sometimes drawn out credit gap, So-Cal now accepts Visa and Mastercard. (Some restrictions apply.)

The firm has expanded its toll free 800 number to the national level with 4 open lines. Warehouse hours are 8:30 am to 5:00 pm Pacific Time. For your faxing convenience, the fax

number is on line 24 hours a day, 7 days a week. Normal shipping is by United Parcel Service (UPS), and company policy is that if an order is received by 11:00 am, it will be shipped the same day under normal circumstances.

So-Cal mails out over 2,000 flyers every month and any locksmith may request to be added to the mailing list.

Our staff, Lin Erbland, co-owner and manager, Ron Erbland, co-owner and consultant, and Tim Davis, salesman, make every effort to handle every call in a polite and professional manner.

**For FREE Information  
Circle 363 on Rapid Reply**

## **Turn 10 Wholesale**

John Miller, owner of Turn 10 Wholesale, took a risk 19 years ago. He left a secure position with a large safe manufacturer to start his family business as a national wholesaler of safes and fire files to locksmiths and security dealers all over the U.S.A.

With the help of his wife, 2 dedicated secretaries, and 5 children, Turn 10 became the largest

*Continued on page 87*

# **NATIONAL**

## **AUTO LOCK SERVICE, INC.**

**National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.**

**[www.laserkey.com](http://www.laserkey.com)**



## Automotive Review...

by Robert Sleveking

# 1992 Toyota Paseo

*"If you are used to picking the lock to open Toyotas, you will find picking slightly more difficult."*

We were fortunate this month, to have the opportunity to work on a '92 Toyota Paseo. What a nice little car. For its price range, it has some features that you might think more common on higher priced compacts.

Some of our discoveries, in servicing this auto, were very interesting, as they concern the pick resistance, shielding of the door lock linkage, and general servicing techniques. What is the easiest method of by-passing the door lock to open the auto? What keys will you need, and what are the codes? Where are the codes found? Is there anything tricky about disassembling the door, to remove the lock? What is a dead locking trunk lock? Is there an easy way to remove the ignition?

The 1992 Paseo uses approximately the same locks that you have seen on the '86 to '91 Celica Liftback, some Corollas since '88, '91 Previa, and '91 Tercel. You will notice some changes in the head styles, between models, but the X151 (TR39) key is common to them all.

Some of the earlier models used an eight wafer locking system that had only seven wafers in the door and trunk cylinders, with the eighth wafer (the wafer closest to the shoulder, in this case) carried in the ignition only. This was nice for the locksmith, in that a door/trunk cylinder did not contain enough information to make a complete key. The last cut had to be made by progression. This year, the locks all contain eight wafers, eliminating the need to progress the eight cut, in the ignition.

If you are used to picking the door or trunk locks, to open the Toyota, you will find the picking slightly more difficult. Wafers found in these locks are serrated. Grooves in the upper and lower wafer compartments engage the

serrations of the wafers as turning tension is applied to the plug. Manipulation of the wafers at this point, resembles picking mushroom pins. The eight wafers are arranged in an alternating up and down pattern, with the odd wafers (1, 3, 5 and 7) on top and the even wafers (2, 4, 6 and 8) on the bottom. The alternating wafer arrangement further increases the security and manipulation resistance of these cylinders.

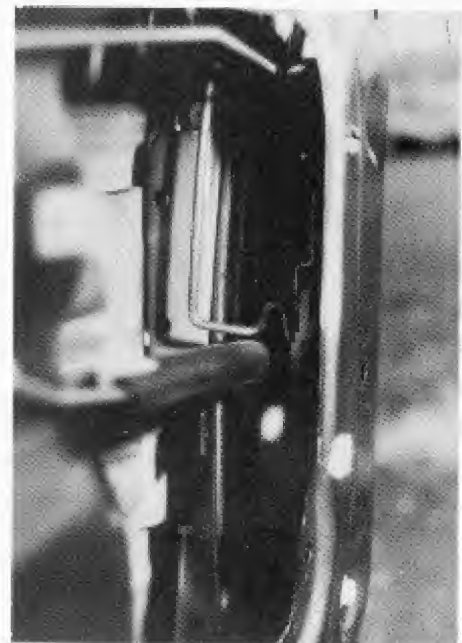
If you are a "reader," you will have little difficulty making keys for the locks using the X151 keyway. There are seven cut depths, however, and this can be a little difficult at times. If in doubt, guess the cut on the shallow side. There is enough tolerance in the cylinder to allow you to turn the cylinder, and mark a cut that is only one depth shallow.

Impressioning these locks is a possibility. For many years I found impression to be a very successful method of making foreign auto keys. The wafer serrations may even be an aid to impressioning. In this case, Working with newer autos, I have made a shift in my key making tactics, toward reading, and away from impression. This is partly because of the absolute elimination of the possibility of damage to the locks, and partly because the customers are more impressed with an otoscope than vise grip pliers. I did not impression a key to these locks, but an experienced locksmith should not have a problem making a key by this method.

Opening the Paseo by bypassing the door lock is fairly simple if you are careful. As with most new cars, there is a shift toward more plastic on the mechanical parts of the lock linkage. The bell cranks used in the door linkage of this auto are plastic, so use caution. To open this car, wedge the passenger side-glass and

insert a narrow Z type down-hook tool into the door as you see in photograph one. Slide the tool into the door, using the window channel as your guide. The lock linkage will be found 10-1/2 below the rubber window ledge. When you contact the linkage, press down carefully and move the tip of the tool toward the rear of the car. This will unlock the door. The linkage is fully shielded by a large plastic tube, as you see in photograph two but you will be applying rearward pressure on the plastic bell-crank arm at the lock.

If you must make a key to the auto, by code, the code will be



1. Z-Tool inserted into Paseo door.



2. Note tube shielding the linkage.

Continued on page 40



Continued from page 38

found on the passenger door cylinder only. The key code was not found on any other lock of this car. Removing the door trim pad was, when compared to some of the American cars I've worked on lately, a snap. Remove the typical "C" style wire retaining clip to free the window regulator handle. One phillips head screw secures the plastic combination lock button and door release handle. Removing the screw however is only half the trick. The door release must be slid forward about 3/4", as you see in photograph three, to free it from the metal door structure.

Release the plastic rod clips, to remove the handle. There are two phillips screws, concealed by the arm rest pad, and one forward of the door release that must be removed, to free the trim pad. Getting the arm rest pad free was a real trick. Metal clips, as you see in photograph four, must be released, to allow the pad to be removed. Clips are at the front and rear of this pad. Slip a 3/4" flat pry bar (I use a pocket Stanley "wonder bar.") under the pad, to contact and press against the metal clip. Pry the clip gently, to release the handle. If you



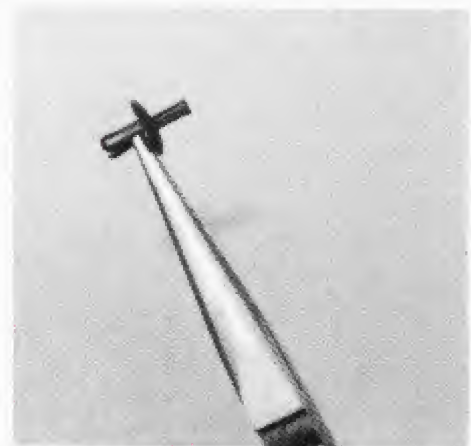
3. Slide door release forward to free it from the door structure



4. Release metal clips to remove pad.

treat these clips too carelessly, you will break the plastic body of the arm rest pad. With the pad removed, you can see and remove the trip pad attachment screws.

A plastic "rivet" secures the upper corner of the trim pad, close to the outside mirror regulator. This is a very clever fastener. If you have been working on some of the newer autos, you will recognize it from photograph five. It is a large plastic rivet head with a plastic push pin in the center. As shown in the photo, the rivet can be easily inserted into a hole. When the pin is pushed "flush" with the rivet head, the four prongs or legs are forced apart to prevent the rivet from being removed. If the center pin is depressed about 1/4"



5. Plastic rivet found on newer autos.

Continued on page 43



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by a pointed tool, the legs will be allowed to compress and release the rivet for removal. Fantastic little invention, if you know the trick. Don't chew it up or break it trying to pry it out, release it. The trim pad can now be easily removed, as you see in photograph six.



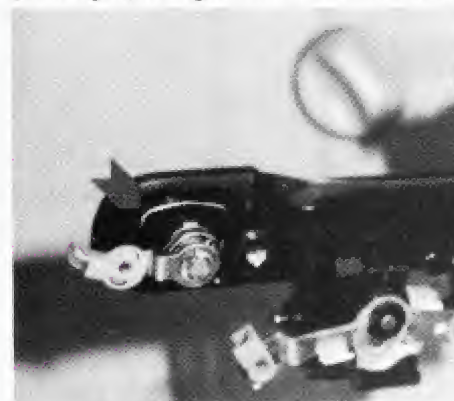
6. The trim pad removed.

The outside door release handle and lock body, shown in photograph seven are removed as a complete unit. It is held in place by



7. Outside door release handle and lock body.

two machine screws. Access holes allow a 10mm nut driver to remove the screws. Release the plastic lock rod clips to free the assembly from the door. The lock cylinder is held in place by a wire clip, as you see in photograph eight. Remove the wire



8. A wire clip holds the lock cylinder.

clip, to slide the lock cylinder out the rear of the handle assembly. The

code will be found on the side of the lock cylinder, as you see in photograph nine.



9. The code is printed on the cylinder.

The code in this case was S2187. The code series, which seems to be universal for all autos using the X151 key section, is S0001-S2878. The complete code series can be found in *The National Locksmith Foreign Code Book*, Volume 2, page 213. Use 1200CM code card XF87, with the standard CW-1011 cutter to produce one side of the key. Duplicate the code cut key onto both sides of a second, to complete the key. Because of the key profile, and the number of deep cuts you will find in a typical key, these keys may be difficult to accurately duplicate. Use a shim, similar to the common Ford key adaptor, under the key, to gauge its depth in the key vise.

If you are using a dial type code cutting machine, you will find the depth and spaces in the table in illustration 10 useful.

<b>Key</b>	<b>Taylor</b>	<b>X151</b>
	<b>ILCO</b>	<b>TR39</b>
	<b>Silca</b>	<b>TOY30</b>
<b>Code Series S1-2878</b>		
<b>1200CM card XF87</b>		
<b>NL FCB ref. vol.2- pg.213</b>		
<b>Spaces</b>		<b>Depths</b>
1)	.128	.315
2)	.211	.301
3)	.294	.287
4)	.377	.273
5)	.460	.260
6)	.543	.246
7)	.626	.232
8)	.709	

*Continued on page 44*



Continued from page 43

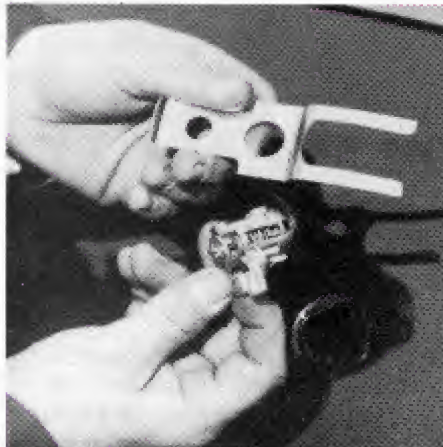
If you are rekeying the locks of the auto, or keying cylinders to match the existing locks on the car, you will need ASP keying kit A-30-105. The same wafers are a part of kit A-30-100, which covers all Toyota vehicles. The door cylinder plug and wafers are shown in photograph 11.

I found that the original wafers, like that on the right, were reduced in width at the point where the key contacts wafer. This allows the cuts to be made closer together on the key. The ASP wafers, like that on the left, were not reduced, like the originals, but they worked fine in my application. Door cylinders can be disassembled without the need for a replacement face cap. The trunk cylinder, however, requires a replacement cap. If it is disassembled, I used a P-30-201 cap for this job, but a black cap, of the same size would have been better.

These autos use a chrome (not, blackened) shutter and disc, with a black face cap. The chrome cap was not a serious problem. If you were making a key to this auto, you might find it easier to open the trunk, using the release beside the driver's seat, and remove the trunk lock. The release will open the trunk if the trunk is not "deadlocked" by the lock



11. The plug and wafers.



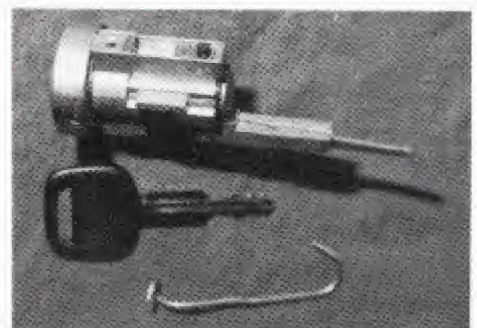
12. The trunk lock removed. Note the drain hole.

cylinder. The trunk cylinder operates much like the BMW and Mercedes locks. If the keyway is "horizontal" the trunk is "deadlocked."

The release lever beside the seat will not open the trunk. If the keyway



13. Rotate cylinder to ACC position.



14. Depress retaining pin with wire.

is vertical, the release lever will open the trunk. The rear seat can be folded down, to allow access to the trunk area, if it is not locked from

Continued on page 89



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by Jack Roberts

## Understanding The Closer

*"All closers, regardless of type, operate in much the same way. A piston moves within a sealed space."*

Many locksmiths, particularly those new to the industry, often overlook, or intentionally stay away from, the additional income and profit that is hanging right above their heads when working on a door lock or cylinder.

Although door closers are not often found in residential applications, almost every door in any commercial, institutional, or industrial building does have a closer of some type. These can range from a small surface mounted closer to concealed overhead or floor closers which may be operated manually or automatically. It is not the intent of this article to examine all of the various types of closers and the installation procedures involved, but rather to assist the reader in understanding the general operation of all closers, and the necessity of closely following the manufacturers' recommended instructions for installation to achieve proper operation and to detect immediate or impending problems of existing installations.

Generally speaking a closer is not necessarily a closer as such but is a device to control the opening and closing of a door under varying circumstances. All closers, regardless of type, operate in much the same way. A piston moves within a sealed space which contains a liquid or fluid, such as hydraulic oil, under controlled conditions. Most of us are familiar with the hydraulic brakes on an automobile which consist of a master cylinder or reservoir, with tubing to individual cylinders located at each wheel of the car. Action of the brake pedal forces the hydraulic fluid through the tubing to each wheel cylinder to exert pressure on the brake pads or disks. Door closers operate in essentially the same manner but in reverse mode. Opening the door is much the same as releasing pressure on the brake

pedal and closing action is akin to applying pressure to the pedal.

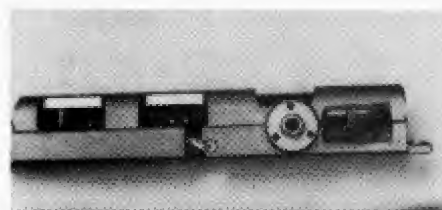
The cutaway of a surface mounted closer (see photograph 1) shows the cylinder, piston and return spring all of which are common to any type of closer. The physical design and construction may be somewhat different but the operation is the same.

Since it is impossible for a piston to move within a sealed body of fluid, passages, or ports, are incorporated which allow the fluid to bypass the piston. These passages are controlled by valves which determine how fast the fluid will move and thus how much pressure is required to open the door and how fast the door will close.

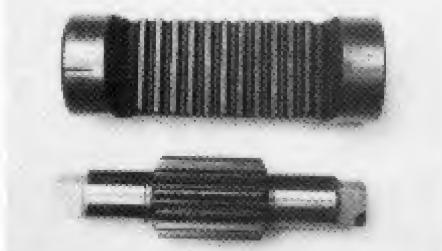
Let's examine just what happens inside the closer when the door is opened and closed. The piston of a surface mounted closer is the rack of a rack and pinion gear system. (See photograph 2.) The end of the pinion gear is attached to the closer arm and when the door is opened the piston is caused to move within the closer body. Ball check valves located in the ends of the piston (see photograph 3) allow the fluid to pass as the piston moves and compresses the return spring. This is the controlled opening action of a closer since the resistance of the fluid as it passes the piston prevents the door from swinging freely on its hinges.

This controlled opening action may be further enhanced by a back check valve. (see photograph 4), which offers additional resistance to the last few degrees of opening and protects the door, door frame, hinges and closer from damage due to forceful physical attack or from high winds. The back check valve may be located on the side, as shown, or on the end of the closer.

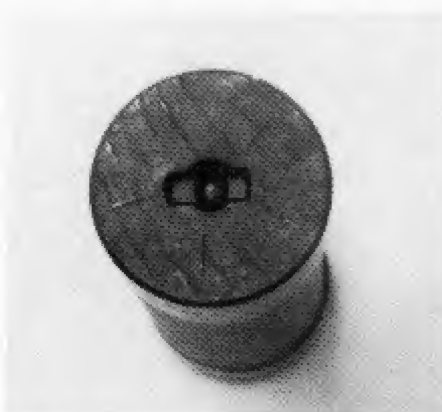
Closing action of all closers is referred to as "sweep" and "latch"



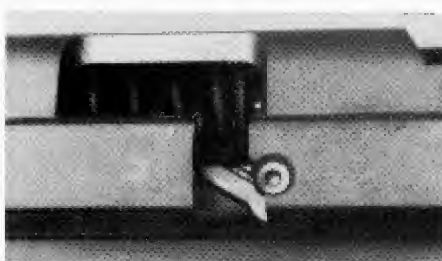
1. Cutaway of a surface mounted closer.



2. A surface mounted closer piston.



3. Ball check valves on the ends of the pistons.



4. Back check valve.

(or close). This same terminology can be applied to the opening action of a closer with a back check valve. The initial opening is the sweep and



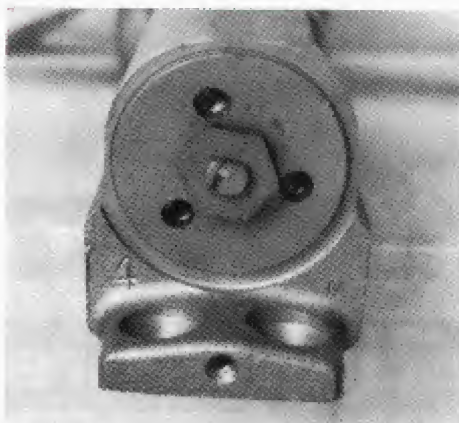
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the final few degrees of opening is similar to latch as the back check becomes operative.

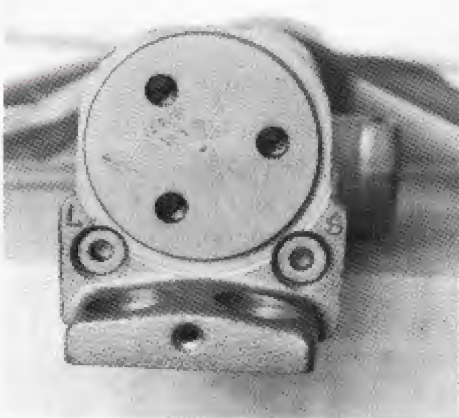
Some models of closers have an adjusting screw for the return spring. (see photograph 5), which can be related to the sweep speed of closing. The return spring is compressed during the opening and this reverses the action within the body of the closer, creating the closing sweep.

The closing sweep, and subsequent latch is controlled by valves located on the end of the closer. (See photograph 6.) The sweep speed is adjusted by turning the "S" valve to achieve the desired speed. The sweep should be operative until the door is within 10 or 15 degrees of closing. The latch speed then takes over, slows the speed of closing and allows the door to close gently without slamming but is firm enough to permit full latching of the lock assembly.

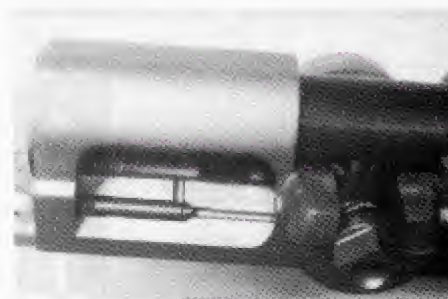
The sweep port and regulating valve are seen in photograph seven. The latch port and regulating valve are seen in photograph eight. Note here that there is a sweep port on the latch side of the body. This permits the faster action of the sweep as the piston moves within the body and is slowed when the



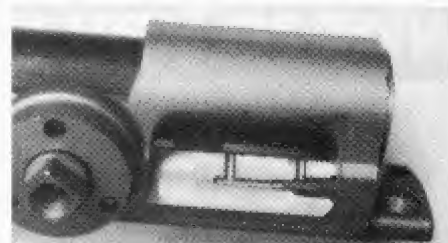
5. Return spring adjusting screw.



6. "Sweep" and "latch" control valve.



7. Sweep port and regulating valve.



8. Latch port and regulating valve.

piston passes these ports allowing the latch port to control the final few degrees of closing. All adjustments to the regulating valves should be done in small increments, about 1/8 turn at a time, and the door should be opened and allowed to close several times after each adjustment.

Turning the valves to the left or counterclockwise gives a faster speed while turning to the right or

Continued on page 50

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clockwise results in a slower speed. Do not, under any conditions, remove these regulating screws, or for that matter, do not turn them more than one full turn in a counterclockwise direction. This could result in loss of the body fluid and render the closer inoperative. Many well intentioned, but uninformed, maintenance men will often turn these screws like spinning a top when there is a closing problem and of course their efforts result in complete failure and subsequent replacement of the closer due to loss of fluid.

A properly installed closer of the correct size and design for its intended use should operate for years without any service problems. Regular maintenance is, however, critical to the life of the closer and the alert locksmith, when noting that maintenance is required, will call this to the attention of management and perhaps add a few dollars to a routine lock service call.

Perhaps the most critical parts of a closer are the "O" ring seals located on each end the pinion gear shaft. (See photograph 9.) Actually these are the only parts of a closer that will ever show any signs of wear and can easily be detected by



9. "O" ring seals.

the presence of fluid on the ends of the pinion gear shaft. If a cover is present on the lower end of the shaft it only takes a minute to remove it and check for a leak. Any leak detected should call for replacement of the closer. It will only get worse. Development of "O" ring materials in recent years has made the leak problem rare but, it will occur.

Problems related to a door not opening or closing properly are generally not due to failure of the closer itself but, rather, are caused by one or more installation factors. Loose mounting screws or through-bolts on the closer body or arm shoe, worn or bent arms, loose hinge or pivot mounting screws, distortion of the door, door frame or door stops, or any combination of these can affect the operation of the closer. Installations which are not made exactly in accordance with the

manufacturer's recommendations will eventually result in improper operation of the closer.

Occasional high surface winds must also be considered as a factor in opening problems and interior pressure created by HVAC systems can make closing and latching adjustments a real nightmare. These air pressures often exert such additional strain on the entire installation, (i.e.: door, frame, hinges and closers) that wear or distort are inevitable.

Interior air pressure problems can often be solved by consultation with an HVAC engineer who can install a pressure relief opening in the problem area. Outside surface winds, of course, are not controllable and opening adjustments must be made to meet a norm. The proper size closer is essential for smooth operation although it may be necessary to increase or decrease the size of the closer to meet individual problems. Closer sizes are usually found on the end of the closer opposite the sweep and latch valves. The closer shown in photograph five is a number four size and would normally be used on an

Continued on page 90



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by Don O'Shall

# Masterkeying Matrix

*"We will examine three common shortcut methods of displaying the possible cuts in a system."*

The dictionary on my desktop defines "MATRIX" as "That which originates, develops, or encloses anything. An array of elements in rows or columns treated as a unit using special algebraic laws in facilitating the study of relations between the elements."

By that loose definition almost any chart we use in masterkey system development could be considered a matrix. However, as used in Masterkeying the term generally refers to "shortcut" or "shorthand" development charts that drastically reduce the amount of writing involved in system layout.

In my latest article on masterkeying options, I listed the common display formats as "block display," "list display," "randomized list display" and "matrix display" and gave examples of each.

I used one excerpt from the "hold and vary" method Matrix display chart developed by Vic Fanberg in the mid-70's, which is taught on a regular basis at the SERLAC convention.

This may have confused some of you who were previously unfamiliar with the chart, and tried to compare it with the truest form of matrix display, developed and taught by Billy B. Edwards, or those familiar with my "Over and Under" chart.

In this article we will examine these three common "shorthand" methods of displaying the possible cuts in a Masterkey system. It should be pointed out, however, that all of these charts require a firm understanding of masterkey system development procedures to properly use. Beginners and those who infrequently develop systems from scratch are better relying on the Block Display format due to its step-by-step logical progression.

But those of us who work on systems on a regular basis will quickly tire of the repetitive nature of the Block Display, as well as the potential for error built into long, tedious tasks.

We will start by examining the complete chart for the Hold and Vary system mentioned earlier. (See illustration 1.) Actually, for any given system only a portion of this chart would be used, based on the size of the system to be developed. For example the chart in the upper left portion would be used for a pattern of Holding 4 Varying 1. The larger squares represent a "Hold" position where the cut is the same as that used on the Master Key in that position, while the cluster of four small squares represents the four cut possibilities to be used on change keys in that position for that pattern. The first line across the chart actually represents the four change keys developed.

The second line on the chart represents the second progression pattern for a Holding 4 Varying 1 system, and so on, as shown in Illustration two.

Illustration 1: Hold and Vary chart

1 LEVEL SYSTEM ( Max. 20 )

	3	2	5	4	2	MASTER
1	5					VHHHH
7	9	2	5	4	2	HVHHH
	3	4 6 8 0	5	4	2	HHVHH
	3	2	1 3 7 9	4	2	HHHVH
	3	2	5	2 6 8 0	2	HHHHV
	3	2	5	4	4 6 8 0	HHHHV

Illustration 2

As you can see in Illustration three, a Holding 3 Varying 2 system would use a different portion of the chart to develop, but the method of use is constant.

As mentioned earlier, anyone wishing a more in-depth treatment of this method might consider a trip to the next SERLAC convention or contacting the association.

When developing a system using the matrix display format developed by Billy B. Edwards, partial progression or Hold and Vary methods can be applied, but the first step, as it was with the chart above, is to determine the size of the system and how many positions must be progressed to satisfy that size. This will determine the exact chart used to build the system.

Illustration four shows a chart for a simple system with two positions progressed. In this example the two



2 LEVEL SYSTEM ( Max. 160)

3	2	5	4	2	MASTER
1 5 7 9	4 6 8 0	5	4	2	VVHHH
1 5 7 9	2	1 3 7 9	4	2	VHVHH
1 5 7 9	2	5	2 6 8 0	2	VHHVH
1 5 7 9	2	5	4	4 6 8 0	VHHHV
3	4 6 8 0	1 3 7 9	4	2	HVVHH
3	4 6 8 0	5	2 6 8 0	2	HVHVH
3	4 6 8 0	5	4	4 6 8 0	HVHHV
3	2	1 3 7 9	2 6 8 0	2	HHVVH
3	2	1 3 7 9	4	4 6 8 0	HHVHV
3	2	5	2 6 8 0	4 6 8 0	HHHVV

Illustration 3

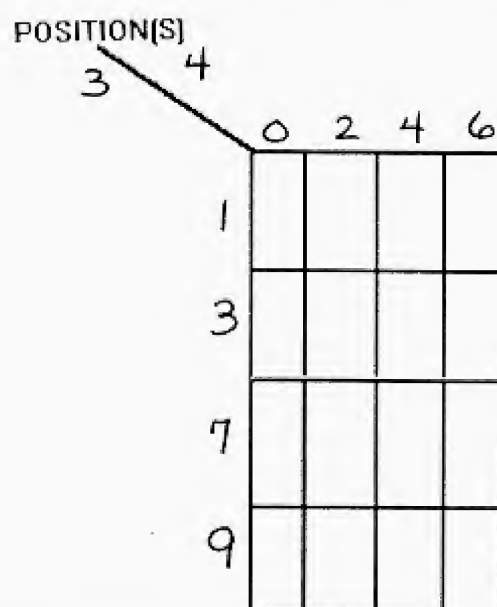


Illustration 4: A two position matrix.

positions chosen are positions three and four as indicated by the 3 and the 4 straddling the diagonal line in the upper left corner. The cut depths going "down" the chart, (1,3,7 and 9) represent the four possible change key cuts for the third position, while the four cut depths going "across" the chart represent the four possible depths for change key cuts in the fourth position on the key. (In this case, the 0, 2, 4 and 6.)

Reading the chart at this point is simplicity itself for anyone familiar with standard graphs. Each square represents a pair of depths to be assigned to a change key.

Illustration five shows the cuts represented by each square. In an actual system development you would not fill these in! This is shown for clarification only.

Instead, in an actual system, you would write a number referring to the Visual ID Number to be assigned to that particular bitting (or even, for a small system, the door or room number to be assigned a key using that

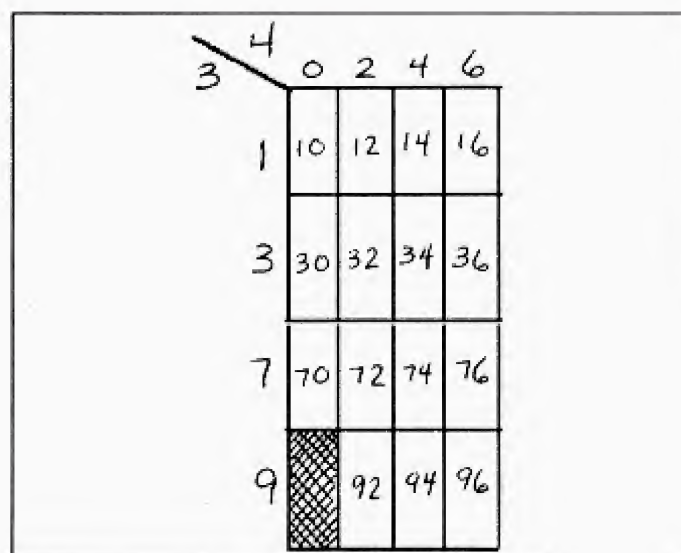


Illustration 5

bitting).

For a larger system requiring a total of three positions to be progressed, a chart like the one in illustration six would be used. Once again, in the upper left, straddling the diagonal line, are the positions where the cuts shown will be used.

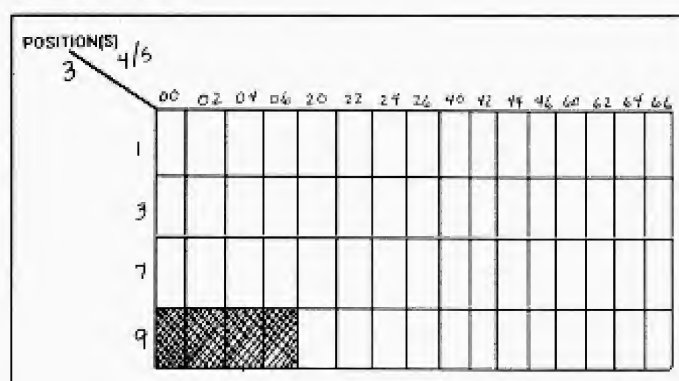


Illustration 6: A 3 position matrix.

In this illustration, the cut positions are next to each other, but one of the beautiful things about this display is its versatility. Illustration seven shows a chart where two of the cuts are next to each other, but the third is a cut apart from the rest. Note that the only thing changing on the chart would be the cut position indicator in the upper left.

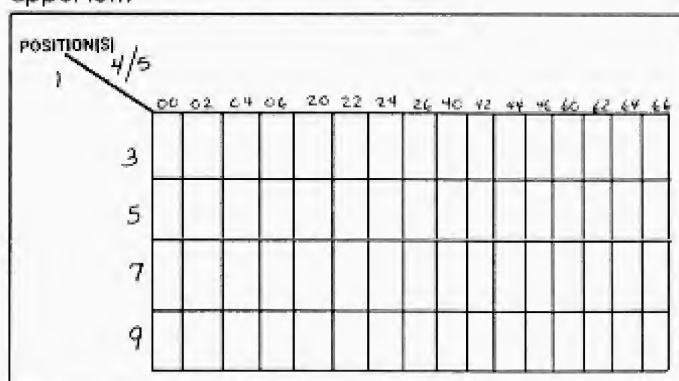


Illustration 7: The cuts need not appear next to each other.

Illustration eight shows a chart for a larger system where four cut positions are progressed. As before, these happen to be positions 2,3 and 4,5 which are next to each other on the key, but it could just have easily



2/3	00	02	04	06	08	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	
21																														
23																														
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Illustration 8: A four position matrix.

VERTICAL MASTER 1 4 0	VERTICAL MASTER 3 4 0	VERTICAL MASTER 5 4 0	VERTICAL MASTER 7 4 0
1 6 2 1 6 4 1 6 6 1 6 8	3 6 2 3 6 4 3 6 6 3 6 8	5 6 2 5 6 4 5 6 6 5 6 8	7 6 2 7 6 4 7 6 6 7 6 8
BLACK MASTER 1 6 0	BLACK MASTER 3 6 0	BLACK MASTER 5 6 0	BLACK MASTER 7 6 0
1 8 2 1 8 4 1 8 6 1 8 8	3 8 2 3 8 4 3 8 6 3 8 8	5 8 2 5 8 4 5 8 6 5 8 8	7 8 2 7 8 4 7 8 6 7 8 8
BLACK MASTER 1 8 0	BLACK MASTER 3 8 0	BLACK MASTER 5 8 0	BLACK MASTER 7 8 0
1 0 2 1 0 4 1 0 6 1 0 8	3 0 2 3 0 4 3 0 6 3 0 8	5 0 2 5 0 4 5 0 6 5 0 8	7 0 2 7 0 4 7 0 6 7 0 8
BLACK MASTER 1 0 0	BLACK MASTER 3 0 0	BLACK MASTER 5 0 0	BLACK MASTER 7 0 0
1 2 2 1 2 4 1 2 6 1 2 8	3 2 2 3 2 4 3 2 6 3 2 8	5 2 2 5 2 4 5 2 6 5 2 8	7 2 2 7 2 4 7 2 6 7 2 8
BLACK MASTER 1 2 0	BLACK MASTER 3 2 0	BLACK MASTER 5 2 0	BLACK MASTER 7 2 0
C 6 A C 3 A 2 4 9 9 4 0	THEORETICAL MASTER KEY (TMK) PATTERN OF ODD AND EVEN CUTS		
4 6 1 1 6 2 6 8 3 3 8 4 8 0 5 5 0 6 0 2 7 7 2 8	BASE FIELD (BAF)		
4 4 9 4 6 1 4 6 3 4 6 5 4 6 7	6 4 9 6 6 1 6 6 3 6 6 5 6 6 7	8 4 9 8 6 1 8 6 3 8 6 5 8 6 7	0 4 9 0 6 1 0 6 3 0 6 5 0 6 7
1 4 6 9 1 6 6 9 1 8 6 9 1 0 6 9	3 4 6 9 3 6 6 9 3 8 6 9 3 0 6 9	5 4 6 9 5 6 6 9 5 8 6 9 5 0 6 9	7 4 6 9 7 6 6 9 7 8 6 9 7 0 6 9
5 4 8 1 5 6 8 3 5 8 8 5 5 0 8 7	6 4 8 1 6 6 8 3 6 8 8 5 6 0 8 7	8 4 8 1 8 6 8 3 8 8 8 5 8 0 8 7	0 4 8 1 0 6 8 3 0 8 8 5 0 0 8 7
1 4 0 1 1 6 0 3 1 8 0 5 1 0 0 7	3 4 0 1 3 6 0 3 3 8 0 5 3 0 0 7	5 4 0 1 5 6 0 3 5 8 0 5 5 0 0 7	7 4 0 1 7 6 0 3 7 8 0 5 7 0 0 7
1 4 2 1 1 6 2 3 1 8 2 5 1 0 2 7	3 4 2 1 3 6 2 3 3 8 2 5 3 0 2 7	5 4 2 1 5 6 2 3 5 8 2 5 5 0 2 7	7 4 2 1 7 6 2 3 7 8 2 5 7 0 2 7
1 4 2 9 1 6 2 9 1 8 2 9 1 0 2 9	3 4 2 9 3 6 2 9 3 8 2 9 3 0 2 9	5 4 2 9 5 6 2 9 5 8 2 9 5 0 2 9	7 4 2 9 7 6 2 9 7 8 2 9 7 0 2 9

Illustration 9: An "over and under" system chart.



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represented positions 1,2 and 5,6 by merely reassigning the position indicator in the upper left.

For this system, rather than progressing all of the positions on one chart to develop multi-level systems, you would determine the size of system needed under each of the masters, and develop the change key bittings based on that as we saw above. Then you would develop a second chart based on the positions to be developed for master key bittings, in the same exact manner.

This display format allows you to develop a full system in literally minutes. But a quick glance at any of the larger charts will tell you it is a tool best used for experienced masterkey system developers.

Persons wishing to learn more about this type of system development should have no difficulty. Billy Edwards currently teaches it for many locksmith associations, including ALOA.

Illustration nine shows a system developed using my "Over and Under" chart. As you can see at a glance, this chart utilizes the basic block display format as its basis, but makes use of the fact that once you have developed the first three positions to be progressed on a page of the charts, every other page will be identical to it for these three positions.

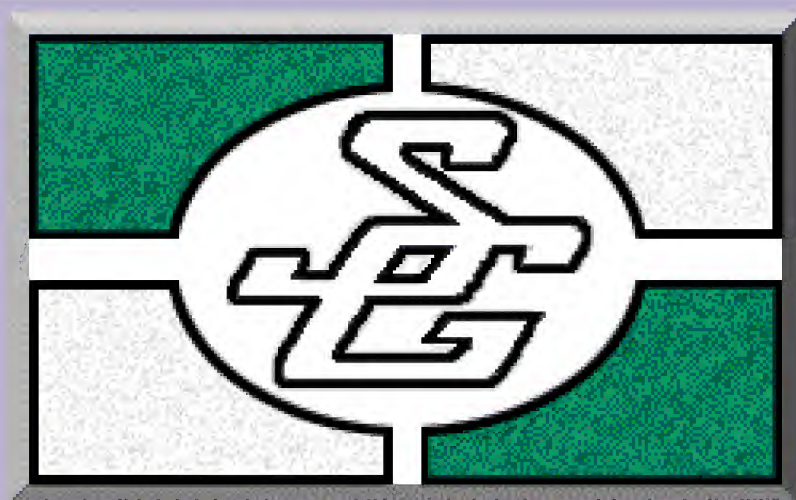
This particular system uses a progression pattern of "cbaeba" split up on two charts, which just happen to

be on a single page. Master key bittings are progressed on one chart, and, whether used or not in the system can be readily identified. Each "combination" on the chart is used with a "page" of the change key bittings from the other chart on the sheet. Using this chart reduces time for system development to a matter of minutes, greatly reduces possibility of error, and still gives you access to a complete system.

The "Over and Under" chart is one facet of the "Practical Masterkeying" course taught by Tony West at various locksmith association conventions.

All three of these Display Format charts are valuable tools for the locksmith serious about Masterkey System Development. All three can save you hours of drudgery, or reduce the amount of time spent listening to your computer's printer churning out page after page of master and change key bittings for those times when you do not really need it in "long hand" form, or will allow you to begin work on the actual pinning while the computer does the drudge work.

Of course, as with any short-cut, there are some perils along the way. Recognition of MACS (Safety Factor) violations is vital to proper use of the charts. This, by the way, is one very good reason to use KBA (Base Field) manipulation to both determine and control where such violations will occur. §



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## Mini Section...

# Decorative Hardware

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## Baldwin Hardware Corporation

The name Baldwin is synonymous with brass, but few know the extent of Baldwin's full range of hardware products. Styles and designs of hardware range from colonial to Victorian to traditional to contemporary. Products provided range from high security mortise door locks and door trim to hinges, mail slots, door knockers, cabinet knobs and pulls, to door stops, chain door fasteners and flush ring pulls. With this broad range of products are finishes from polished brass, antique brass, dull nickel, polished and brushed chrome to oil rubbed bronze.



Baldwin's reputation has been achieved through their dedication to producing high quality hardware by utilizing the hot forging process. This manufacturing process has many advantages over cast metal hardware. Forging produces parts that are actually stronger and heavier due to the compression of the metal's molecules. Fine design details can be reproduced and the surface of each forged hardware piece is smoother and harder, a distinct advantage over porous castings.

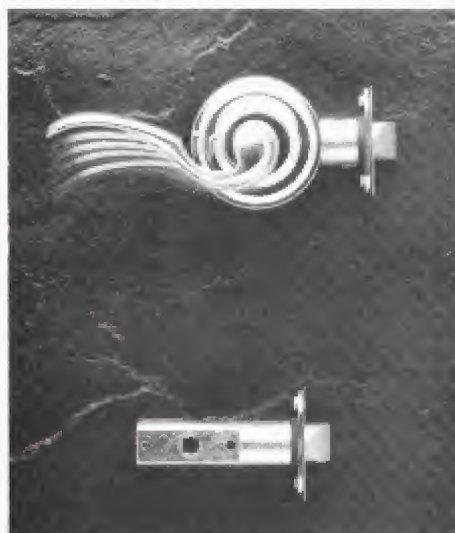
It's the hard, smooth surface that enables Baldwin to polish the metal to the deep, rich, lustrous finish that they are so well known for. Most all metal finishes except chrome and oil rubbed bronze are coated with clear baked-on coatings to prevent tarnishing.

Baldwin is cognizant of the needs of today's value conscious consumer through market research, product design and development. Each year product improvements, new designs and finishes are introduced to fulfill today's consumer needs. Baldwin hardware is widely used by fine builders, discerning architects and by locksmiths who demand quality.

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## Jado Bathroom and Hardware

Jado U.S.A. introduces Super Latch, the only latch designed for lever strength function. A mere 18 degrees of rotation gives full latch retraction making it easier than ever to lock doors.



Sophisticated design and quality are Jado hallmarks, and Super Latch

gives beautiful expression to advanced precision German engineering. Designed for performance, Super Latch is subjected to durability tests that are perhaps the most demanding in the industry. Before approval, Super Latch must survive a regimen of 200,000 cycles. Adding more strength to the Super Latch endurance claims is a lifetime mechanical warranty, a Jado exclusive.

Practical as well as durable, Super Latch has an adjustable faceplate for beveled doors. The versatile product is available in 2-3/8" and 2-3/4" backsets. Passage and privacy functions are built-in conveniences. Super Latch features 1/2" throw, and is truly "ambidextrous" allowing easy installation on the left or right side of doors.

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## Kaba High Security

Brassworks, custom crafted forged brass hardware, is designed for



elegance and durability. Every product is created from the best quality forged solid brass by New England craftsmen, and is hand



Continued from page 56

polished to a beautiful finish, protected with a clear lacquer coating and combined with a lock technology unsurpassed in this industry.

Brassworks offers a variety of design choices and lock functions for entrance, interior, french and patio doors. Handles, escutcheons, levers or knobs, functions and finishes can be mixed and matched for unprecedented flexibility.

For exterior doors, Brassworks locksets are available in a choice of four lock models: Entrance Locksets for standard bored doors, Mortised Entrance Locksets, Narrow Stile Locksets and Interconnected Locksets. The Brassworks low-profile deadbolt is one of the best deadbolts on the market and provides a high level of security to the front of the entrance door. This patented deadbolt features: One-inch throw bolt that has two hardened steel pins to resist sawing; Interlocking bolt and heavy duty cylinder housing which can withstand a pull test in excess of one ton; Solid brass single and double mortise cylinders; No exposed screws on the inside (double cylinder only) or the outside of the lock; Heavy steel plate held by 3" screws behind

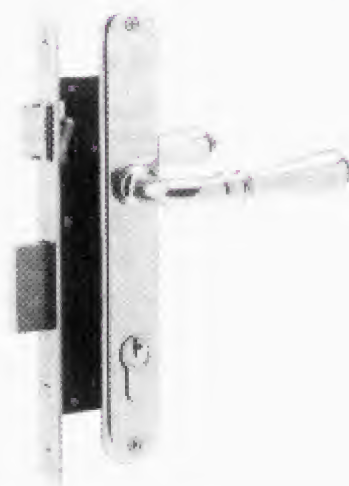
the decorative jamb plate.

Brassworks interior knob and lever latchsets are designed to complement the styles of the Brassworks exterior door hardware. Available with round or oval roses they cover a standard 2-1/8" bore. The Brassworks is one of the best performing latches on the market. An extra heavy latchbolt spring prevents levers from sagging. Brassworks 3-piece concealed screw leversets are easy to install and do not require adjustments. Preassembled levers on spindle positions levers perfectly; Spring loaded spindle adjusts to slight variation of door thickness. And since set screws are locked in, they won't back out and leave latchset requiring readjustment.

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For over 27 years, Omnia Industries, Inc. has provided the residential and commercial markets with upscale, solid brass decorative hardware. As manufacturers of distinctive, decorative door hardware, hinges and other architectural trim products, Omnia has come to signify quality and the



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Over the years, Omnia has widened its product line of interior tubular latchsets to include mortise locks, narrow backset mortise locks, and deadbolt locksets. The internationally-patented latchsets have become a standard in the industry. Designed to fit a 2-1/8" bore, the tubular latches feature a fully reversible latchbolt with a 1/2" throw, a strong torque spring for smooth return action, and a pitched hub for sag resistant levers. And all latchsets are available with over 50

*Continued on page 90*

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by Carl Cloud

## Diebold Vault Opening

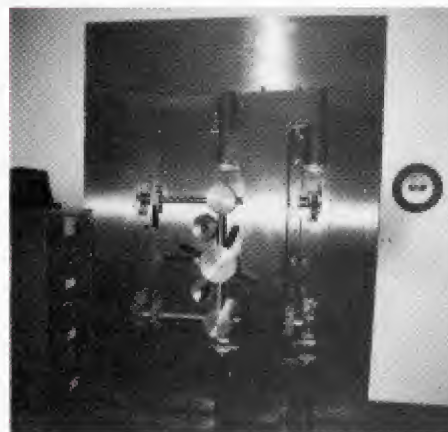
*"There was a long pause on the other end of the phone line. Then she said, 'You've got to be kidding!'"*

What is a safeman's worst nightmare? How's this scenario. You worked on a bank vault yesterday. The phone rings this morning and they say the vault won't open. The vault door has two combination locks, either may be used to unlock the door. This morning, no matter which lock is tried, the handle won't move. Oh my! It make your head pound just to think about it!

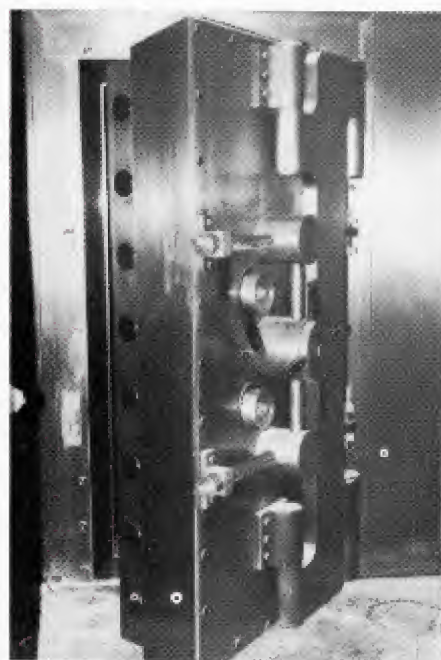
This exact thing happened to Joyce & Warren Stillwell, owners of Action Lock & Safe, here in San Diego, California. Time lock servicing had been a part of their business for the last five years. One of their service contracts included the three bank type vaults located within the county administration building. The routine service procedure was to remove one of the three time movements from the vault door, take it to the shop for servicing and return it the next day. The time movement was removed Wednesday. The dastardly phone call came Thursday morning.

I also received a phone call. It was Joyce. Her voice reflected a twinge of nervous apprehension. "Steve is having a problem getting a vault open at the county building. Can you go down there and see what he's doing wrong?" At the time I thought, Steve is a pretty good safe tech. I don't think it's him that's doing anything wrong, but I'll go take a look.

I arrived at the building and saw a full fledged bank type vault. (See photograph 1.) It was a Diebold door with dual combination locks. A "steering wheel" releases the two compression bars and a large black pull up handle was used to retract the locking bolts. A preview of the door is shown in photograph two. The door thickness was a solid sixteen inches. The door face, frame and frontal trim was in gleaming stainless steel.



1. Locked Diebold bank vault door.



2. The door was 16" of solid steel.

I ran the combination on both of the locks. Each lock is operated correctly and unlocked to the combination numbers, but the handle would not budge. I thought maybe the person setting the time lock may have mistakenly set the number of hours incorrectly. If this were the case, the clocks would still be running. I donned the set of ear phones and placed Sieveking's Contact Amplifier on the safe

door. With the volume set critically high, there was not one "tick" to be heard.

I related my conclusions back to Joyce. The combination locks were functioning properly, the time movements had run down, the door should open. Either, possibly a mounting screw from the removed time movement had unnoticed fallen into the boltworks of the door, or the time lock itself was the culprit.

Joyce said, "You mean that you can't get it open? What do we do now?" I told Joyce that every bank vault opening I had been aware of by Mosler or Diebold, entry was always made through the wall. There was a long pause on the other end of the phone line. Then she said, "You gotta be kidding?" I could sympathize with what she was feeling. I've never been in such a terrible situation. But I could imagine the inner turmoil that must have been occurring.

I offered a couple of names and phone numbers of people to contact at Diebold Safe Co. A job of this magnitude merited a second opinion. Getting the advice from Diebold is the best source available. They will know the most efficient approach for the opening. A phone call to Action the next morning inquiring as to the status of the situation, informed me that "the guys were on the vault job." Diebold had said to "go through the wall."

When I arrived on the vault scene, Joyce's husband Warren, their son Mark and employee Steve Whinery were on the job. The crew from Action Lock and Safe had experience working with concrete from their installations of floor safes. They felt with a little ingenuity, and using the tool they knew best, they could conquer the wall with an electric jack hammer. And that was the approach they chose. (See photograph 3.)

Attempting to hold the jack





**3. The three men took turns operating the electric jack hammer.**

hammer horizontal to the wall was almost impossible. An "eyeball" installed above the drilling area provided an anchor for a supporting rope to the hammer. Still, the progress was slow. It was hard to guide the hammer tip and assert sufficient pressure to cause a chipping action.

The front of the vault faced onto a narrow hallway. One end of the hallway led to a filing storage area, the other into the main office of the tax collector. This end of the hall had been sealed off with a plastic drop sheet in an attempt to contain the dust created by the drilling.

All three men took turns operating the jack hammer. Spray bottles of water were directed at the hole in an effort to keep the dust down to a minimum. The variety of spare hammer points brought to the work site were kept sharp with a small hand grinder.

Day one reluctantly ended around 4:30 Thursday afternoon. After about five hours of hammering the wall, the cavity was twelve inches deep. On the assumption of the wall thickness being eighteen inches, only six inches to go! After a consultation with the tax office manager, it was decided to stop for the day, leaving the vault in a locked condition. They felt that continuing on through the wall could involve hiring a guard to protect an open vault overnight.

The vault was believed to have been constructed in the early 1950's. As concrete ages, it also hardens. The Action guys will testify to that fact! Before they started with the jack hammer, Steve Whinery said that he had smacked the wall with a twelve pound sledge hammer. "I thought we could chip away the face of the wall with the sledge. All I heard was a

sharp "ping" as the sledge bounced off the wall. It didn't even mar the paint!"

Day two started by 8:00 a.m. A little after 9:30, the point of the jack hammer broke through the inner wall. Eagerly enlarging the hole, they found something blocking the way into the vault chamber (See photograph 4.) The office staff concurred that the object was probably a section of the wooden shelving that lined the vault walls. The enlargement of the hole continued.



**4. Wooden shelving blocked the hole.**



**5. Warren tries the hole for size.**

but then the jack hammer quit operating. Just stopped for no reason. The excitement of making entry had been delayed until another hammer was located and brought to the wall.

The new hammer enlarged the hole in a short time but the wooden obstruction had to be removed. A reciprocating saw, a "Sawzall" was

used to cut away the exposed wooded section.

Once the hole was thought to be large enough, Warren gave it a feet first try. (See photograph 5.) Using his feet, he was able to break away or move objects obstructing a direct entry into the vault.

Steve and Mark joked about Warren getting stuck in the hole. "He'll be known as 'Warren the Pooh' (from the Winnie the Pooh story of Winnie going to Rabbit's house and getting stuck in his hole.) The hole proved to be still too small to pass through and the jack hammer was fired up again.

The light switch for the vault was turned on and the men could now see their path into the interior. Steve tried the hole for size. Once his shoulders passed through, he quickly disappeared into the hole. Without hesitation, Warren scooted in after him. After about a minute of silence, a voice was heard to say, O.K., turn the handle. The locking bolts "ca-chunked" as they retracted and the huge door swung open. (See photograph 6.)

What was the problem that caused the lockout? Warren pointed to the arm within the time clock and said, "Here's what did it. When the

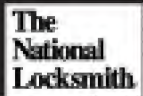


**6. Two members of the "Hole in the Wall Gang" in the opened vault.**

time movement was removed, this arm was replaced on top of this pin instead of under it. That caused the pin to be held down in a locked position and acting as a relocker, not allowing the handle to move." (See photographs 7 and 8.)

The repair of the vault door was simple. Just move the arm to the



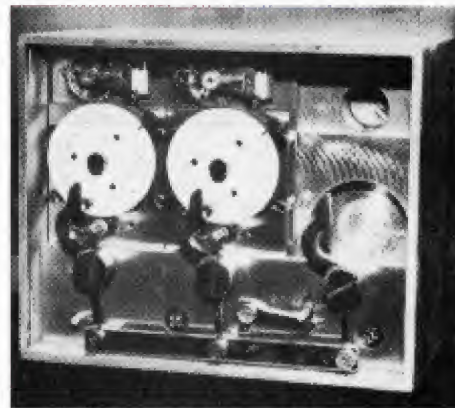


Continued from page 60



7. Here's the problem lever.

correct position and the door was ready to operate again. The wall took a little more work. The reinforcing rods were bent back into the hole and new pieces added. Surprisingly, only two bars were encountered during the making of the hole. A form was built to create the inside wall of the hole. As concrete filled the hole, the



8. The time clock with the right time movement was removed. The short horizontal arm at the lower right part of the case had been placed in the wrong position. (Shown correct.)

outside form was raised higher and higher until only a narrow crack shown. After the concrete had hardened, a layer of "finish concrete" was troweled onto the patch to smooth any blemishes and fill cracks. The area was then repainted.

Warren Stillwell's attitude and positive approach to this disaster was almost saintly. During the hours I spent watching, taking notes and shooting pictures, I never heard a disgruntled word spoken, not even a "damn." When the tax office manager asked

Warren if the employee had been fired who caused the lockout, his reply was, "Good heavens no! Why would I fire a man who has just learned such a valuable experience? None of us walk on water, we all make unintentional mistakes."

When the vault door opened, Warren immediately showed the error made by his technician. I'm sorry to say, there are people in our trade who would not have admitted any guilt to this lockout. They would have found "something" wrong or blamed someone for tinkering with the lock after their technician had left. I'm sure the purification of the soul with honesty would make a better world and certainly better safe technicians.

Every locksmith or safe technician will have, or already has, been locked out by his own doings. It may be cause from his haste, a distraction, by not doing a complete and thorough job or maybe he just didn't know any better. One of two things usually occurs to this person. They will lose confidence in themselves and shy away from performing that particular job again. Or, they will analyze their mistake, correct the working procedure and will become very proficient in the job.

Warren Stillwell asked me to take pictures and to write an article about his predicament. He had nothing to hide. Being placed into this situation was not his choice. But since he was thrust into this problem, he used it as a learning experience for himself and his company. His attitude was, let's make the best of an awkward circumstance and put our energy to solving the problem, rather than agonizing over it and casting blame. "After all," he said, "we wouldn't have become official members of The Hole in the Wall Gang without this problem!"

More importantly, he wanted to share this episode with his fellow tradesmen. Illustrating the worst possible situation doesn't have to happen if procedures are followed for each job. In the case of the vault, the procedure was not completed in testing the door before the technician left the job site. Plus, soak up a little Warren's philosophy, "If you look for the good in every bad situation, chances are you'll find it."

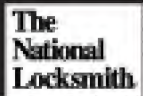
Our trade should be proud to have people like Warren and Joyce Stillwell who impart their moral principles and integrity into our industry. §

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by Dale Libby

## Trumbull Safe Service

*"The safe on the outside was rather imposing. It was a laminated money chest from the 1890's."*

In the Chicago area, the "Monsters of the Midway" are the Chicago Bears football team. This term came to mind when I met and faced off against the Trumbull Giant (My name, not the manufacturer's!). This lock was so massive on this late 1890's safe that I had to open, that I aptly named it the Trumbull Giant.

The situation I met in opening this safe precluded the taking of pictures of the actual safe itself. It was in a secure area. The safe was locked and the company knew that there was nothing in it, but they were moving to a new location and leaving the lock box, and they wanted it open before they left it.

I made a deal on the opening of the safe if I could keep the

combination lock. With much persuading and cajoling, the deal was set, and I was set to work on this early bank type pressure bar system money chest.

The safe on the outside was rather imposing. It measured four and one half feet high, four feet wide and three and one half deep. It was a laminated type money chest from the late 1890's. There was no insulation, just 6 layers of laminated steel soft and hard plates. The safe was expertly screwed together.

The safe lock itself was in the exact center of the door. The dial ring measures 4-1/2 inches in diameter. The dial went from 10 to 70, which is similar to early Hall products. The name on the

safe was "Trumbull Safe Company," Chicago.

By means and design of the inside boltwork, I suspect that Trumbull had the safe made by someone else (Hall) and just put their name on it. The back of the lock case has a two part cover, one for the combination wheel pack, and the other the rest of the case cover.

In photograph one, we can see the safe body, the "T" handle and dial ring. The measurements for the safe lock are the following:

Case: 6 inches long, 4 inches high, and 2-1/2 inches deep.

Bolt: 2 inches long, 1-7/8 inches high.

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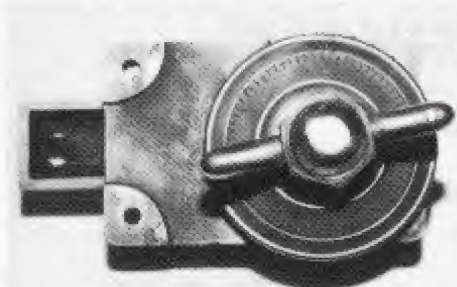
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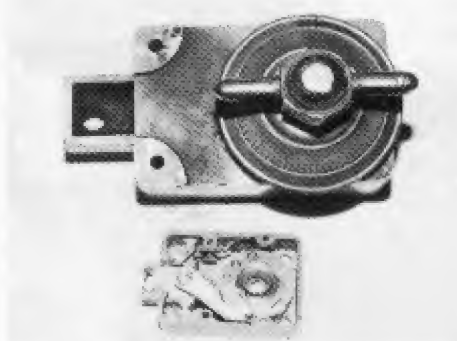
**1. The Trumbull giant combination lock. Note the large "T" handle.**

and 1 inch wide. Total Length of bolt and case, a massive 8 inches.

Dial Ring: 4-1/2 inches and "T" handle, just over 5 inches.

Weight About 9 pounds.

Photo two shows a front view of a Group II S&G combination lock and the Trumbull Giant. There is a massive difference in the bolt throw. The Trumbull pulled back fourteen 2 inch bolts on the last turn (Right) to stop. There were three bolts on the top and bottom, and four bolts on each side of the door. All the bolts were active.

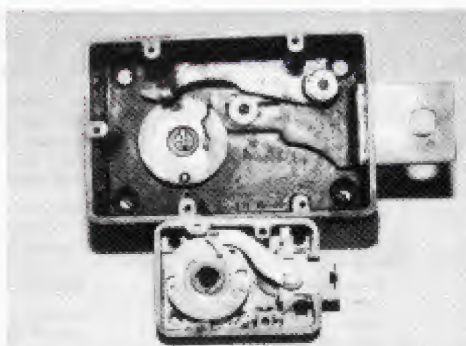


**2. Trumbull compared to a Group II S&G 6730 lock.**

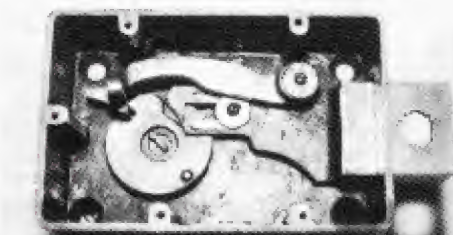
This door is similar to many of the better models of the safe and money chests of the late 19th century. They were made to last. The boltwork was complex and incorporated bell crank mechanisms, levers and gears. The lock itself was mounted on two laminated layers of hardplate under the surface of the door. The total distance from the outside of the safe to the inside of the lock case is only 1 inch.

Photo three shows the inside view of the safe lock, again in comparison to an S&G 6730 lock. Both covers of the Trumbull have been removed. In this picture the locking lever has dropped into the drive cam ready to pull back the bolt. There is also a milled part on the drive cam that will accept part of the bolt as it is pulled into the lock.

In photo four, the bolt has been retracted all the way into the lock. The drive cam can be seen with part of the bolt in the special slot in the cam. The throw of the lock is about 1 inch with



**3. Inner view of lock case showing lever, long bolt, and drive cam.**



**4. The locking bolt is retracted into the cut-out of the drive cam.**

the dial turning to the right.

There is a pressure bar system on the front of the money chest. The door was hinged with compound hinges on the right. To close the door, it was pulled to the front of the unit, and then with the pressure bar, it was full closed and then the dial was turned.

The manufacturer made this unit to be air tight when sealed. There was dove-tailing around the edge of the door. The handle on the combination lock activated the massive boltwork easily.

To determine the combination of the lock, there is a peep hole in the back cover with a movable brass plate. This can be seen in photo five. Here the end of the locking lever can be seen resting in the gate of wheel number 4. This peep hole can be used when changing the combination to actually determine a new combination also.



**5. Note peep hole. Drive cam is visible.**

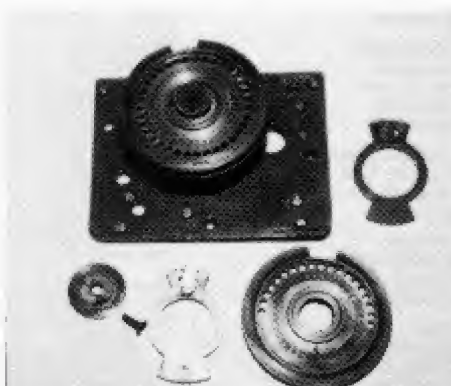
The wheel pack and post is shown in photo six. This is a four wheel lock which means 4 numbers and the last turn to right to stop. The combination would have been written:



**6. The wheel pack on half of the back cover plate. Note the large gates.**

5 Times Right to \_\_\_\_  
4 Times Left to \_\_\_\_  
3 Times Right to \_\_\_\_  
2 Times Left to \_\_\_\_  
1 Time to: STOP!

In photo seven, I have taken the last wheel off the wheel pack to show certain innovations with this lock. Even though this lock is 100 years or so old, it has some good innovations. Technically, it is a perforated wheel type lock.



**7. The wheel pack assembly.**

All the perforations are numbered along with the wheel parts. Wheel 4 uses part 4 combination locator. Also, there are movable flies on this lock as can be seen in the picture. A rather advanced concept on this old of a safe.

Another innovation was the absence of only half the holes on the last wheel next to the drive cam. On this wheel, the combination could only be set away from the "Forbidden zone". It was impossible to change the combination incorrectly if all the parts, wheels, and spacers were installed accurately and precisely.

The opening of this safe took about 10 minutes. Someone, in the past, had drilled a 5/16 inch hole at 11 o'clock. It was sealed with soft metal and solder. I re-drilled this hole and used a borescope. The angle to enter the lock was rather steep, owing to the size of the dial ring and the fact that the lock was mounted so close to the front of the door. §



# The Lighter Side

Samaritans Among Us



by Sara Probasco

**"W**ell, I thought I had heard it all." Don held a newspaper clipping in his hand. "Here's a locksmith claiming to be a nonprofit organization and running about unlocking vehicles for 'tax deductible donations.' What next?"

"What are you reading?" I asked, glancing up from the computer.

"An article Dennis Copeland sent from Brownsville. Have you read it?"

"Not yet. What does it say?"

"Here's a guy who claims he can 'pry open' anything on wheels."

"Pry?"

"That's what it says." Don's eyes returned to the printed page. "He learned his craft of 'prying open' car doors when he was nineteen years old and worked for a security service. Claims he can get into any vehicle made in two seconds flat, with a slim jim and some home-made tools."

"Hmmm. We could use him in our business," I replied, ignoring the glare that flashed my way.

"According to this article," Don continued, unabashed, "the man is considered a knight in shining armor who aids citizens in distress."

"Did you say something about donations?"

"It says he charges no fee, but does accept donations—usually between ten and twenty dollars a pop—just 'to keep the program running.' That takes the cake."

"That's not a bad take, if his overhead is low. I wonder how many vehicles he would open in an average day," I said, my mental calculator popping into play.

"Who knows? With this kind of free advertising, quite a few. I would imagine. Look at this." He held the article out for me to see. "It's a half-page spread, complete with pictures. They even give his phone number at

the bottom and encourage their readers to call him. You can't buy that kind of publicity."

"He looks like a nice man," I said, looking over Don's shoulder at the clipping.

"His mother thinks so, too. See? Here's a testimonial from her about what a good boy he was, growing up."

"Apparently, he has no shop," I said, reading over Don's shoulder.

"No. He patrols the area in an unmarked station wagon, watching for lock-outs while listening to his police scanner. Meanwhile, his girl friend stays at home to receive telephone calls, which she forwards to him by beeper." Don glanced up at me, his eyes dreamy. "Wouldn't it be nice if we could operate that way—no overhead, free coverage in the local newspaper, no taxes to pay on income?"

"You wouldn't like it," I replied, returning to my computer.

"How come?"

"First, you'd want a sign on the side of your vehicle and a place to mount your new key machine, and the next thing you know, you'd be wanting a big RV with office space and a place for your coffee pot."

"No, no. You miss the point. This is like hunting in the wilds. This man is roughing it in a tough world, using only his two hands and a few primitive tools." Don's eyes had glazed over the way they do when he's about to launch into the tale of fording a quicksand pit in his service van. "It's just him and his unmarked station wagon against the elements."

"The elements?" I caught myself smiling.

"Well, after all, the man offers twenty-four-hour-a-day service in rain or snow. It says so, right here." Don emphasized his point by stabbing the paper with his finger.

"Snow? In Brownsville, Texas? I think he's pretty safe, there," I replied.

"Regardless, you must admit that the man is gutsy, offering his opening service for mere donations. Not everybody would set up a non-profit

organization just to help the public."

"You're not serious?"

"Well, I don't agree with what he's doing from a locksmithing standpoint, if that's what you mean, but I think he's probably a good hearted fellow, if a bit misguided."

"The man claims he is a non-profit organization," I said. "In the first place, a non-profit organization must be incorporated. In the second place, it must be certified under section 201C3 of federal law. In the third place, that law clearly states, among other things, that a non-profit organization may not compete with retail businesses in the regular sale of goods or services. Does that tell you something?"

"How did you suddenly get so smart?"

"I read a lot," I replied. "Besides, most of that is here, in the other article Dennis sent."

Don took the second clipping from my hands and quickly read the comments submitted by a disgruntled locksmith, in response to the first article.

When questioned, the article stated, the "good Samaritan" admitted that he was not aware of the laws regarding non-profit organizations.

"Well," said Don, "I still say, it's a good thing."

"How could you possibly think that?" I exploded. "He's undercutting the bona fide locksmiths by claiming he charges nothing for his work, while actually accepting supposedly tax deductible donations in excess of some locksmiths' regular fees. He's getting out of paying taxes by calling himself a non-profit organization. He operates incognito with no physical location and no business listing. What this means for the customer is, he's out on a limb, when something goes wrong. How can you say it's a good thing?"

Don's grin spread slowly across his face. "Well, just like Dennis says, the locksmiths down there are gonna get rich following that guy around and cleaning up after his act. He may claim to work for nothing, but those

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# Beginner's Corner

## Deadbolt Installation



by Eugene Gentry

In Beginner's Corner, I have tried to discuss various locksmithing jobs that new locksmiths may be required to handle. Installing residential deadlocks is a good way for a new locksmith to get more business. A flier distributed around a neighborhood, or a small ad in the local paper will bring you business installing deadlocks, plus duplicate keys, key changes in other locks in the house, and any other work that you might suggest.

Following is a discussion of how to install a residential deadbolt. First, you have to buy the locks. I usually get a few polished brass, and a few antique brass and will buy them with two or three keyed alike so if I have a front, rear and side door they will be ready to install. Also, I stay with the same brand, unless someone with a different brand lockset requests that the door be keyed alike.

You should already have most of the tools that you need for installation. (See Photograph 1.) You will need a drill, preferably reversible. (And please don't try to drill in the reverse position. Don't laugh, it happens.) Purchase a 2-1/8" hole saw, a 1" spade drill bit and an 1/8" drill bit. Sometimes the hardware store will sell these together as an installation kit for deadbolts. Check the store also for a couple of chisels, a 1" and 3/4". Have a long extension cord. I use a 100 foot in case the source of electric is a long distance away. Also needed are a sheet or tarp to catch the sawdust, and a brush and dust pan to clean up. If the door swings in, you will be working over the rug.

Now get ready to start installing. Inside the box containing the deadbolt, you will find a template. Fold and place the template about 3-5/8" above the center line of the lockset, on the low edge the door. (See



1. Installing tools.



2. Template placed on door's low side.



3. Drill door 2-1/8".



4. Hole in edge of door, 1" chisel, 5/63" deep.

photograph 2.) Mark the center for the backset and the center on the door edge for the latch. The back set is the distance from the edge of the door to the center of the hole. The most common back set is 2-3/8", but be aware that some are 2-3/4", so look on

your box, or measure the latch from front to center-line to make sure. Remember the carpenter's rule: "measure twice, cut once." The door we are working on is a 2-3/8" backset with 1-3/4" door thickness.

To make the drilling easier, drill an 1/8" pilot hole at your marks on the edge and side of the door. Now use your 2-1/8" hole saw to drill the side of the door. (See photograph 3.) Drill about half way through the door, then finish from the other side to prevent splintering.

When this is finished, close the door and mark the location on the jam for the strike plate by pushing a nail through the pilot hole. Now drill your 1" hole in the door edge, and a 1" hole in the jam for the striker. (See photograph 4.) The jam hole should be at least 1" deep. Keep the open door steady when drilling by placing some type of stopper under the door.

Now, install the strike plate. Center the strike plate over the hole in the jam, and mark around it. Use a chisel to cut out a depth of 5/64" or until striker is flush. Tighten the two screws.

Insert the deadbolt into the hole, and mark the outline on the edge of the door. (See photograph 5.) Chisel out the wood to a depth of about 5/64", or until the face is flush to the door edge. Install the deadbolt in an up position, shown by the word UP on the deadlock. Put in the screws.

The hardest part is over, so you are ready to install the cylinder mechanism. Put the torque blade through the latch. Tapped holes of the



5. The deadbolt in the door.

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national wholesaler of safes. Miller credits the following philosophy as the reason for their success:

"Our goal is to give the locksmiths what they want, when they want it, and where they want it."

To accomplish this, Turn 10 stocks the full line of Gardall and Meilink Safes and FireKing and Victor Fire Files. This insures quick shipping in 24 hours. In fact, if customers call before 2:00 p.m., they can ship their safes out that day 95% of the time. They rush orders because in most cases, customers wanted the safe yesterday.

Miller also credits the Free Freight policy for Turn 10's success. When a locksmith quotes the price of a safe to his customer, the last thing he needs to worry about is guessing what his freight bill will be. With Turn 10, you know your price is right to the penny. You can quote with confidence and do not have to worry about profit margins. In fact, Turn 10 will even ship the safe directly to your customer if they have a dock and can receive it. This is especially helpful to locksmiths with customers out of town or state.

It is no surprise that even in these economically tough times, Turn 10's sales have steadily increased. Dedication to serving locksmiths with high quality safes at a low price is what Turn 10 is all about.

Turn 10 also cares about helping locksmiths capture safe orders by offering free selling tools. They believe that every locksmith, whether he has a shop or is mobile has a golden opportunity to sell safes.

## For FREE Information

Circle 383 on Rapid Reply

## Williams Key Company

Since 1969, Williams Key Co. has been serving the locksmith industry from St. Louis. The business began as a part-time job for its semi-retired founder, the late Chester Williams. By 1972, the part time job had become so demanding that a warehouse was acquired and two salesmen hired to call on local trade with Chet overseeing and wife Erma running the office.

Their son David, fresh from college in 1972, joined the company, established another route and assisted in the warehouse during his father's fishing trips and other emergencies. After Chet's sudden death in August of 1979, David became head of the company. By 1980, a competitor was bought out and Williams Key began to grow with its 25,000 square foot warehouse and

*Continued on next page*



established a solid business.

Pat Montrym continues in the position of office manager, a post she has held since before the move to larger quarters in 1980. Three employees have been with the company ten years and have seen many changes take place.

In August 1987, David left the company to establish and run a Christian retreat in the Ozarks at Ellington, Missouri. Erma Williams then became president with Mike Rachocki and George Koester, both veteran employees, becoming general manager and operations manager respectively.

This past year of 1991 has seen some distinctive changes in the company. Son Larry, a part time employee since 1972, retired as captain at a local fire department district and came to the company full time. Son-in-law Gary Andrews also joined the firm. Plans are to groom both for the eventual management of the business thus allowing Erma the freedom to spend more time with her grandchildren and to travel.

A 500-page catalog is available detailing over 100 manufacturers that Williams Key represents and an 800 telephone number is available for nationwide orders and inquiries. Williams Key salesmen are knowledgeable, having all been locksmiths or having previous lock experience.

**For FREE Information**  
**Circle 384 on Rapid Reply**

### Samuel Zeldin

Samuel Zeldin is a Philadelphia based distributor founded in 1930 by a locksmith. In 1947, Mr. Zeldin started wholesaling and received his first contract from Briggs & Stratton.

They are a full-line distributor for Auto Security Products, specializing in automotive locks, selling and serving locksmiths and car dealers all over the United States. They serve their customers with immediate shipping and service on all products.

**For FREE Information**  
**Circle 385 on Rapid Reply**

### Zipf Lock Company

Recipe for a dedicated distributor: computerized since late 1969, toll free WATS line and fax line, four catalogs consisting of a Hardware catalog (278 pages), Hardware Supplement (131 pages), Shop Equipment Catalog (90 pages) and Key Blank Catalog (over 165 pages) for a total of over 650 pages.

Add in over 16,500 different line items

with a low markup rate and very competitive prices, 29 dedicated and knowledgeable employees, in-stock orders phoned in by 4 p.m. (EST) shipped out same day, and bi-monthly sales flyers. Mix it all together and you get one highly dedicated supplier of security and related door hardware: Zipf Lock Company of Columbus OH.

Family owned and operated for over 80 years, Zipf still operates with the same pride with which it was founded and is always ready to prove it.

**For FREE Information**  
**Circle 449 on Rapid Reply**

### Toyota

*Continued from page 44*

inside the trunk. If the seatback is locked, it is relatively easy to release the latches with a simple wire "L" shaped tool. With the trunk lock removed as in photograph 12 you will not need to disassemble the lock to decode the wafers. The drain hole, in the bottom of the lock case, allows a perfect view of all the wafers. Cut the key to operate the cylinder, and replace the trunk lock.

If you are servicing the ignition, you will find it a simple process to remove the cylinder if you have a key. The lock cylinder, shown in photograph 13, must be rotated to the ACC position to allow the retaining pin, at the extreme rear of the lock, to be depressed. Remove the bottom steering column shroud only. With the cover removed and the plug turned to the ACC position, use a piece of wire, bent as the one in photograph 14 to depress the retaining pin. Pull on the key to slide the complete with a simple wire "L" shaped tool. With the trunk lock removed as in photograph 12 you will not need to disassemble the lock to decode the wafers. The drain hole, in the bottom of the lock case, allows a perfect view of all the wafers. Cut the key to operate the cylinder, and replace the trunk lock.

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### Closers

*Continued from page 50*

exterior door of standard width and height.

On standard and top jamb installations the alert locksmith will look for improper control arm positions. The forearm should stand at 90 degrees to the door when the door is closed. For parallel arm installations the main arm should stand at no more than 2 or 3 degrees from parallel with the door when closed. Any variance from these standards should be called to the attention of management as potential opening or closing problems.

Any unusual sounds such as bucking or snapping when the door is opened or closed indicate that some problem already exists and should have immediate attention. Look up when you are working on a lock, observe as you pass through a door opening, and put some extra income in the cash box by understanding the functions of closers and the maintenance required to keep them operating smoothly. §

### Decorative Hardware (Omnia)

*Continued from page 58*

trim designs of knobs and levers.

Realizing that emphasis has been placed on the combination of durability, security and design, Omnia's mortise lockset program is an ideal product for any installation. The standard mortise lock line employs a UL Listed mechanism of the highest standards, with all functions available and offered with the attractive Omnia trim. The narrow backset locks provide high security and classic styling for patio, French-style or entry doors. Two backsets are available in this line: 1-3/8" and the very popular 2" backset.

Omnia's deadbolt series includes deadbolts with a 1" projection, built-in maximum security with flush cylinders, and an excellent selection of decorative trim to enhance any entrance. An attractive aspect for the locksmiths and builders is a moderate pricing structure and ease of installation for this product line.

Continuous product improvements and a commitment to providing the best customer service, in all realms, has allowed Omnia to remain in the forefront of the decorative hardware industry. The demand for quality decorative hardware will continue to grow, and Omnia plans to remain the choice selection for locksmiths, builders

**For FREE Information**  
**Circle 386 on Rapid Reply**



## The Lighter Side

*Continued from page 76*

locksmiths won't."

"I don't get it."

"When the do-gooder starts trying to 'pry' open doors on some of the newer model automobiles and he messes up something, what do you think his customers will do when they can't find him?" Don asked.

"Look in the yellow pages for a locksmith."

"Right. And what is the fee likely to be for repairing the other guy's mess?" Don was smiling again.

"An arm and a leg."

"Right. So you see, as Dennis says, we shouldn't get upset over these people. Just stand back and let them do their thing. What they're really doing is creating more business for us, in the long run."

The next morning, I saw Don plundering through the file box where we keep posters of humorous "sayings" that we display beside our cash register for our customers' amusement.

"Can I help you find something?" I asked.

"No, thanks. Here it is," Don lifted a page, smiled, and started for the front door. "I'm going to get a copy made. I'll be right back," he said.

"What is it?" I asked.

"Something I'm going to send for the 'good Samaritan' in Brownsville to hang in his station wagon," he replied. "He may need it, before the year is out." He held up the page. "THIS IS A NON-PROFIT ORGANIZATION. We didn't plan it that way. The IRS did!"

## Beginner's Corner

*Continued from page 78*

through the latch. Tapped holes of the exterior cylinder are lined up with the holes in the latch. The key hole should be down, in the lower part of the cylinder.

Slip the thumb turn assembly on the torque blade, and turn to the locked position. This will free the holes for the machine screws to enter. The word locked, should be at the top. Tighten down the screws, and you are finished.

You have two ways to make money on deadlocks: by the mark-up of the lock and the installation charges.

Some day when your profit margin grows to the point that you have money to buy all the neat tools you would like to have, buy a new or used boring tool for deadbolt installation. It has all the jigs, bits and settings that you need, and cuts installation time by more than half. §



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